INTERNATIONAL MARITIME ORGANIZATION

IMO

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SUB-COMMITTEE ON SAFETY OF NAVIGATION
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Agenda item 25

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REPORT TO THE MARITIME SAFETY COMMITTEE

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LIST OF ANNEXES

1 GENERAL

1.1 The Sub-Committee on Safety of Navigation held its fifty-fourth session from 30 June to 4 July 2008 at the Headquarters of the Organization, under the chairmanship of Mr. K. Polderman (The Netherlands). The Vice-Chairman, Mr. J. M. Sollosi (United States), was also present.

1.2 The session was attended by representatives of the following countries:

ALGERIA
ANTIGUA AND BARBUDA
ARGENTINA
AUSTRALIA
BAHAMAS
BELGIUM
BOLIVIA
BRAZIL
BULGARIA
CANADA
CHILE
CHINA
COLOMBIA
CUBA
CYPRUS
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA
DENMARK
DOMINICAN REPUBLIC
ECUADOR
EGYPT
ESTONIA
FINLAND
FRANCE
GERMANY
GHANA
GREECE
ICELAND
INDONESIA
IRAN (ISLAMIC REPUBLIC OF)
IRELAND
ITALY
JAPAN
LATVIA
LIBERIA
MALAYSIA
MALTA
MARSHALL ISLANDS
MEXICO
NETHERLANDS
NEW ZEALAND
NIGERIA
NORWAY
PANAMA
PAPUA NEW GUINEA
PERU
PHILIPPINES
POLAND
PORTUGAL
REPUBLIC OF KOREA
ROMANIA
RUSSIAN FEDERATION
SAUDI ARABIA
SINGAPORE
SOUTH AFRICA
SPAIN
SWEDEN
SYRIAN ARAB REPUBLIC
TURKEY
TUVALU
UKRAINE
UNITED KINGDOM
UNITED STATES
URUGUAY
VANUATU
VENEZUELA

and of the following Associate Member of IMO:

HONG KONG, CHINA

and the following State not Member of IMO:

COOK ISLANDS

1.3 The session was attended by representatives from the following United Nations and specialized agencies:

WORLD METEOROLOGICAL ORGANIZATION (WMO)

1.4 The following intergovernmental and non-governmental organizations were also represented:

INTERNATIONAL HYDROGRAPHIC ORGANIZATION (IHO)
COMMISSION OF THE EUROPEAN COMMUNITIES (EC)
MARITIME ORGANISATION FOR WEST AND CENTRAL AFRICA (MOWCA)
INTERNATIONAL MOBILE SATELLITE ORGANIZATION (IMSO)
INTERNATIONAL CHAMBER OF SHIPPING (ICS)
INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)
INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)
INTERNATIONAL UNION OF MARINE INSURANCE (IUMI)
INTERNATIONAL TRANSPORT WORKERS' FEDERATION (ITF)
INTERNATIONAL ASSOCIATION OF MARINE AIDS TO NAVIGATION AND LIGHTHOUSE AUTHORITIES (IALA)
INTERNATIONAL RADIO-MARITIME COMMITTEE (CIRM)
BIMCO
INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES (IACS)
OIL COMPANIES INTERNATIONAL MARINE FORUM (OCIMF)
INTERNATIONAL MARITIME PILOTS' ASSOCIATION (IMPA)
INTERNATIONAL ASSOCIATION OF INSTITUTES OF NAVIGATION (IAIN)
INTERNATIONAL FEDERATION OF SHIPMASTERS' ASSOCIATIONS (IFSMA)
INTERNATIONAL ASSOCIATION OF INDEPENDENT TANKERS OWNERS (INTERTANKO)
INTERNATIONAL MARITIME RESCUE FEDERATION (IMRF)
GREENPEACE INTERNATIONAL
INTERNATIONAL SAILING FEDERATION (ISAF)
WORLD NUCLEAR TRANSPORT INSTITUTE (WNTI)
INTERNATIONAL HARBOUR MASTERS' ASSOCIATION (IHMA)

Opening address of the Secretary-General

1.5 The Secretary-General welcomed the participants and delivered his opening address, the full text of which is reproduced in document NAV 54/INF.11.

Chairman's remarks

1.6 The Chairman thanked the Secretary-General for his words of encouragement and advice and stated that his advice and requests would be given every consideration in the Sub-Committee's deliberations and its working and drafting groups.

Other matters

1.7 The delegation of Ukraine stated that more than a month had passed since a Gibraltar-flagged ship **Lehmann Timber** had been seized en route to the Suez Canal by pirates operating from Somalia. A German shipowner from Hamburg had started negotiations with the pirates in order to secure the release of the crew and the ship; however, there had been no

positive resolution up to now. The situation was aggravated because the crew (which comprised Russian, Ukranian and Estonian nationals) was running out of water and food and some crew members needed medical assistance. The last information on the state of the crew circulated in the media on Friday, 27 June 2008 mentioned that the major part of the crew had been removed from the ship and their fate was unknown. The Ukranian delegation also thanked the Secretary-General for his support and, in particular, for his letter addressed to the Transitional Federal Government of Somalia with a message to undertake measures in order to relieve the sufferings of the crew and to release the ship. The Ukranian delegation took this opportunity to request all parties involved to double their efforts in undertaking actions to release the crew and the ship as soon as possible.

1.8 The Secretary-General expressed the hope that the matter would be solved in due course and that the crew would be recovered safe and sound. He referred to the efforts undertaken by the Organization to resolve this issue and to the recently adopted UNSC resolution on Somalia by the Security Council for intervention, in the country's territorial sea, by naval vessels of third countries operating in Western Indian Ocean and Gulf of Aden waters to prevent piracy and armed robbery against ships.

1.9 The delegation of Turkey expressed its deepest sympathy for the lost souls of the marine casualty in the Philippines. The Turkish delegation also expressed its consideration, concerns and the sympathy with the comment and intervention made by the distinguished delegation of Ukraine with regards to piracy and armed robbery. In addition, the Turkish delegation expressed its appreciation to the Secretary-General for his kind words and recognition of the contribution of the Turkish Government to the safety of navigation and the protection of the marine environment in the Strait of Istanbul, the Strait of Çanakkale and the Marmara Sea. As it was well known by the Member States of the Organization as well as the global shipping community, Turkey had introduced the Vessel Traffic Services by the end of 2003 and made the service available for the Strait of Istanbul and the Strait of Çanakkale separately with the planning of an extension to cover the entire Strait of Istanbul and the Strait of Çanakkale passage and including the Marmara Sea TSS at a later stage. As mentioned already by the Secretary-General during his opening address, the planned extension to cover the Marmara Sea TSS was going to be available shortly. The installation and the connection of the additional three remotely operated sensors to the existing system had been completed and the testing period would commence this week. It was planned that once the final fine-tuning work necessary tests had been completed, the Organization would be formally advised through the general means of communications in due course. In the meantime, a passive watch was going to be undertaken for the Marmara Sea area and Channel 10 of VHF R/T had been allocated for this sector. However, normal operations were going to be continued for the existing service and there was no expected change for the current service at this stage.

1.10 The delegation of the Philippines conveyed the deepest appreciation of their Government for the expressions of sympathies and support, which the Chairman, the Secretary-General and various delegations had extended in light of the tragic incident in the Philippines involving the passenger ferry **Princess of the Stars**. The delegation of the Philippines informed the Committee that authorities in the Philippines had already begun to undertake investigations into this incident. The Philippines' delegation also noted that once the investigations and necessary proceedings were completed, the Philippines will report relevant findings to IMO, with the view to drawing lessons from the incident for the benefit of international shipping.

Adoption of the agenda

1.11 The Sub-Committee adopted the agenda (NAV 54/1), and agreed, in general, that the work of the Sub-Committee should be guided by the annotations to the provisional agenda and timetable (NAV 54/1/1), as amended. The agenda of the session, with the list of documents submitted under each agenda item for consideration, is set out in document NAV 54/INF.12.

2 DECISIONS OF OTHER IMO BODIES

2.1 The Sub-Committee noted, in general, decisions and comments (NAV 54/2, NAV 54/2/1, and NAV 54/2/2) pertaining to its work made by MSC 83, SLF 50, A 25, DE 50, COMSAR 12 and MSC 84 and considered them under the appropriate agenda items.

Outcome of MSC 83 and MSC 84

Review of the Guidelines on the organization and method of work of the MSC and the MEPC and their subsidiary bodies

2.2 The Sub-Committee noted that MSC 83, having considered the recommendations of the 2007 Chairmen's meeting (MSC 83/WP.10), had agreed that the Guidelines should be strictly adhered to, but, having recognized that, at the same time, flexibility was needed in certain circumstances, agreed:

.1 that intersessional working groups and technical groups should not be held at the same time as Committee or sub-committee meetings;

.2 that splinter groups of a working group, if established, should meet outside normal working hours; and

.3 to extend the deadline for submission of bulky information documents from 13 weeks to 9 weeks, if they were submitted in electronic format, and to amend the Committees' Guidelines accordingly.

Revised Committees' Guidelines

2.3 The Sub-Committee also noted that MSC 84 had approved the draft amendments (MSC 84/21, annex) and requested the Secretariat to prepare and circulate the revised Committees' Guidelines by means of MSC-MEPC.1/Circ.2, which incorporate the approved amendments and supersede the existing Guidelines.

Application of the agenda management procedures

2.4 The Sub-Committee further noted that MSC 84 had agreed that the agenda management procedure specified in paragraphs 3.13 to 3.25 of the Committees' revised guidelines should be strictly adhered to and this would reduce the need for various groups at a meeting as well as intersessional meetings, so that the agendas of all the Sub-Committees were manageable.

Strategic Plan and High-level Action Plan of the Organization

2.5 The Sub-Committee noted that the Assembly, at its twenty-fifth session, adopted resolution A.989(25) on Strategic Plan for the Organization (for the six-year period 2008-2013)

and resolution A.990(25) on High-level Action Plan of the Organization and priorities for the 2008-2009 biennium. The actions requested in the operative paragraphs of the two new resolutions entail follow-up aimed at achieving the objectives of the plans and providing a link between the Organization's strategy and the work of the various IMO organs.

2.6 In this context, the Sub-Committee also noted that the Council, at its twenty-fourth extraordinary session, had endorsed the recommendations of its *ad hoc* Working Group on the Organization's Strategic Plan, as follows:

.1 all IMO organs should, sufficiently early in their agendas for each session, set aside adequate time for the systematic consideration of the high-level actions and their associated priorities and their connection to the strategic directions;

.2 all IMO organs should ensure that their planned activities and the related outputs are accurately and concisely described in the High-level Action Plan and that the production of such outputs is systematically and regularly monitored;

.3 when considering their work programmes and provisional agendas for their next sessions, all IMO organs should, under each item, cross-reference the related strategic directions and high-level actions;

.4 the Sub-Committees should, in reporting to the Committees on their work programmes, also report on the status of their planned outputs;

.5 guidelines on the application of, and reporting on, the Strategic and High-level Action Plans should be developed, with input from all Chairmen, to facilitate the work of all IMO organs; and

.6 all IMO documents, especially proposals for new work programme items should demonstrate, where feasible, the linkages to the Strategic and High-level Action Plans by including, in the summary table at the beginning of each document, references to the related strategic direction(s), high-level action(s) and planned output(s).

2.7 The Sub-Committee further noted that, in the context of the above recommendations by the Council, MSC 84 had considered the proposals by the 2008 Chairmen's meeting and agreed that:

Table of planned output

.1 the present table of Planned Output prepared for resolution A.990(25) contained some parts which did not precisely provide the actual work programmes of the sub-committees and needed to be reviewed by all sub-committee Chairmen together with respective Secretaries to recover any missing work programme items of the sub-committees and improve the accuracy of the table;

.2 the table of Planned Output should also be reviewed by the Committees during the biennium in question and should be revised to include any urgent new work programme items and such updating should be informed to the Council for endorsement;

.3 the table of Planned Output should also provide entries on the status of work of the sub-committees on the long-term work programme items which would not yield the final output in the biennium in question;

Format and procedure for reporting of planned outputs by the Sub-Committees

.4 the sub-committees, at each respective session, should prepare and annex to their respective reports, a report on the status of their planned outputs in the High-level Action Plan for the respective biennium in the format proposed in the annex to document STW 39/WP.1, for the Committee's consideration and endorsement; and

.5 regarding the terminologies to be used to describe the status of the planned outputs, the term "ongoing" should not be used and actual progress of work must be reflected and, in addition, the status of work on the long-term work programmes should also be provided.

3 ROUTEING OF SHIPS, SHIP REPORTING AND RELATED MATTERS

General

3.1 The Chairman recalled that during NAV 51 (NAV 51/19, paragraph 3.4), in summing up the extensive discussion on the quality of ships' routeing proposals, he had stressed the need to use a procedure similar to the one being presently used by the Committee for the assessment of proposals for new work programme items to pre-assess such proposals. He had further recommended that for future sessions of the Sub-Committee, a preliminary assessment of these proposals would be made by him in consultation with the Secretariat and the Chairman of the Ships' Routeing Working Group, following the general criteria in MSC/Circ.1060 and MSC.1/Circ.1060/Add.1 without addressing the technical aspects of the proposal. The results of the assessment would then be made available to the Sub-Committee by means of a Working Paper. The Sub-Committee had supported this proposed course of action.

3.2 The Chairman informed the Sub-Committee that accordingly, he had in co-operation with the Secretariat prepared document NAV 54/WP.1, outlining a preliminary assessment of the ships' routeing and ship reporting proposals. The Sub-Committee considered document NAV 54/WP.1 and noted that, in general, the proposals were in conformity with the criteria outlined in MSC/Circ.1060 and MSC.1/Circ.1060/Add.1.

New Traffic Separation Schemes (TSSs)

New Traffic Separation Scheme "In the approaches to the Port of Thessaloniki"

3.3 At the request of the Government of Greece, the Sub-Committee briefly considered a proposal (NAV 54/3/6) for the establishment of a new traffic separation scheme "In the approaches to the Port of Thessaloniki".

New Traffic Separation Schemes for the "Åland Sea"

3.4 At the request of the Governments of Finland and Sweden, the Sub-Committee briefly considered a joint proposal (NAV 54/3/7 and Corr.1 (English), annexes 1 and 2) concerning the

establishment of three new traffic separation schemes, namely "North Åland Sea", "South Åland Sea" and "Off Lågskär" for the Åland Sea.

New Traffic Separation Scheme "In Liverpool Bay"

3.5 At the request of the Government of the United Kingdom, the Sub-Committee briefly considered a proposal (NAV 54/3/9) for the establishment of a new traffic separation scheme "In Liverpool Bay".

3.6 The observer from ICS voiced some concern over the layout of the proposed new traffic separation scheme over the Douglas oil field and suggested that it would be advisable for the Ships' Routeing Working Group to review the scheme in consultation with the United Kingdom.

Amendments to existing Traffic Separation Schemes (TSSs)

Amendments to the existing traffic separation scheme "In the approach to Boston, Massachusetts"

3.7 At the request of the Government of the United States, the Sub-Committee considered a proposal (NAV 54/3) for amendments to the north-south leg of the existing traffic separation scheme "In the approach to Boston, Massachusetts". The objective of this proposed amendment was to narrow the lanes in this part of the Boston TSS to be consistent with the width of the east-west lanes and thus significantly reduce the likelihood of ship strike deaths and serious injuries to North Atlantic right whales, while maintaining and improving maritime safety.

Amendments to the existing Traffic Separation Scheme "Off Land's End, between Seven Stones and Longships"

3.8 At the request of the Government of the United Kingdom, the Sub-Committee considered a proposal (NAV 54/3/5) to amend the existing traffic separation scheme "Off Land's End, between Seven Stones and Longships" for the purpose of better managing the flow of traffic in the general area potentially affected by proposals for new offshore renewable energy developments and thus the preservation of navigational safety and the protection of the marine environment.

Amendments to the existing Traffic Separation Scheme "In the approaches to the River Humber"

3.9 At the request of the Government of the United Kingdom, the Sub-Committee considered a proposal (NAV 54/3/8) to amend the existing traffic separation scheme "In the approaches to the River Humber", for the purposes of separating opposing streams of traffic in the north east approaches, better managing the flow of traffic in the general area and thus the preservation of navigational safety and the protection of the marine environment.

Amendments to the existing Traffic Separation Scheme "At Hatter Barn"

3.10 At the request of the Government of Denmark, the Sub-Committee considered a proposal (NAV 54/3/10) to amend the existing traffic separation scheme "At Hatter Barn" including a discontinuation of the inshore traffic zone.

Routeing measures other than Traffic Separation Schemes (TSSs)

Establishment of a new seasonal Area To Be Avoided (ATBA) "In the Great South Channel", off the east coast of the United States

3.11 At the request of the Government of the United States, the Sub-Committee considered a proposal (NAV 54/3/1) to establish a new recommendatory **seasonal** (four months duration: 1 April to 31 July of each year) Area To Be Avoided "In the Great South Channel", off the east coast of the United States. The objective of this proposal was to significantly reduce the likelihood of ship strike deaths and serious injuries to North Atlantic right whales during the time when a large percentage of right whales are in the Great South Channel and were engaged in activities that make them particularly susceptible to ship strikes. This proposal was related to the United States proposal (NAV 54/3) to amend the Traffic Separation Scheme (TSS) "In the approach to Boston, Massachusetts" because the western boundary of the ATBA is directly adjacent to the TSS.

Establishment of a new Area To Be Avoided (ATBA) and two new Mandatory No Anchoring Areas in the western North Atlantic Ocean, off the coast of the United States

3.12 At the request of the Government of the United States, the Sub-Committee considered a proposal (NAV 54/3/2) to establish a new Area To Be Avoided (ATBA) and two new **mandatory** No Anchoring Areas for the purposes of safety, security, and vessel traffic management in the vicinity of the proposed Northeast Gateway Energy Bridge Deepwater Port to be located in the western North Atlantic Ocean, off the coast of the United States.

3.13 The delegation of Norway sought clarification from the United States as to when the proposed Northeast Gateway Energy Bridge Deepwater Port would be constructed.

3.14 The delegation of the United States informed the Sub-Committee that the proposed routeing measures would be implemented only after the construction of the proposed port had begun.

Establishment of new deep-water routes leading to the Åland Sea

3.15 At the request of the Governments of Finland and Sweden, the Sub-Committee briefly considered a joint proposal (NAV 54/3/7 and Corr.1 (English), annexes 1 and 2) for the establishment of new deep-water routes leading to the Åland Sea, namely, a deep-water route inside the borders of the "North Åland Sea" TSS and a deep-water route inside the borders of the "South Åland" TSS.

Mandatory ship reporting systems

New mandatory ship reporting system "Off the Coast of Portugal – COPREP"

3.16 At the request of the Government of Portugal, the Sub-Committee briefly considered a proposal (NAV 54/3/4) for the establishment of a new **mandatory** ship reporting system in the maritime geographic zone "Off the Coast of Portugal – COPREP". The proposed mandatory Ship Reporting System, covered the existing Traffic Separation Schemes (TSS) in the area including the Area To Be Avoided (ATBA) around Berlenga Island and would create single points of reporting which contribute to minimizing vessels reporting procedures and the allied operation of ports and other related entities.

Amendments to the existing ship reporting system for the Papahānaumokuākea Marine National Monument, "CORAL SHIPREP"

3.17 At the request of the Government of the United States, the Sub-Committee briefly considered a proposal (NAV 54/3/3) for simplifying the co-ordinates for the ship reporting system boundaries to facilitate ease of use and compliance by mariners, and to update the address of the existing ship reporting system for the Papahānaumokuākea Marine National Monument, "CORAL SHIPREP".

Review of adopted mandatory ship reporting systems

3.18 The delegation of Norway supported by a number of other delegations voiced their concern on the increasing number of mandatory ship reporting systems that had been established over the years. These delegations were of the view that there was a need to simplify and reduce the number of ship reporting systems in view of the developments relating to AIS and LRIT and that this matter should also be considered by the Ships' Routeing Working Group.

3.19 The Chairman recalled that, at NAV 52 and NAV 53, he had taken the initiative to bring to the attention of Members the need for carrying out an evaluation of existing mandatory ship reporting systems as specified in resolution MSC.43(64) – Guidelines and criteria for ship reporting systems, as amended by resolutions MSC.111(73) and MSC.189(79) relating to ship reporting systems. In addition, SOLAS regulation V/11.11 stated that the Organization shall ensure that adopted ship reporting systems are reviewed under the guidelines and criteria developed by the Organization. Lastly, section 4.4 of resolution MSC.43(64), as amended, stated that the Organization should provide a forum for the review and re-evaluation of systems, as necessary, taking into account the pertinent comments, reports, and observations of the systems.

3.20 The Chairman suggested once again that Members should undertake a review and re-evaluation of existing mandatory ship reporting systems based on the operational experience gained and take action, as appropriate. The Chairman further instructed the Ships' Routeing Working Group to consider the matter and advise the Sub-Committee on the issue.

Information about new routeing measures in the southern part of the Baltic Sea under consideration and evaluation by Germany and Poland

3.21 The Sub-Committee noted with interest the information provided by Germany and Poland (NAV 54/INF.5) on new routeing measures in the southern part of the Baltic Sea under consideration and evaluation by Germany and Poland, based on traffic, navigational and environmental conditions analysis.

3.22 The Sub-Committee further noted that it was the intention of Germany and Poland to submit these routeing measures as a joint proposal to the fifty-fifth session of the Sub-Committee, subject to consultations with all Governments of Baltic States having interest in the area concerned and, in particular, with Denmark and Sweden.

Terms of Reference for the Working Group

3.23 After a preliminary discussion, as reported in paragraphs 3.1 to 3.20 above, the Sub-Committee re-established the Ships' Routeing Working Group and instructed it, taking into account any decisions of, and comments and proposals made in Plenary as well as relevant decisions of other IMO bodies (item 2), to:

.1 consider all documents submitted under agenda item 3 (except document NAV 54/INF.5) regarding routeing of ships and related matters and prepare routeing and reporting measures, as appropriate and recommendations for consideration and approval by Plenary;

.2 consider the issue of the increase in the number of mandatory ship reporting systems and provide comments and guidance, as appropriate;

.3 consider document MSC 82/21/3 (Norway, United Kingdom and IHO) under agenda item 5 and finalize the proposed amendments to Annexes 1 and 2 of resolution A.572(14), as amended – General Provisions on Ships' Routeing to align it with the specifications for routeing measures boundaries and charting of archipelagic sea lanes adopted by the IHO, and prepare recommendations for consideration and approval by Plenary;

.4 take into account the role of the human element guidance as updated at MSC 75 (MSC 75/24, paragraph 15.7) including the Human Element Analysing Process (HEAP) given in MSC/Circ.878-MEPC/Circ.346 in all aspects of the items considered; and

.5 submit a report to Plenary on Thursday, 3 July 2008 for consideration.

Report of the Ships' Routeing Working Group

3.24 Having received and considered the Working Group's report (NAV 54/WP.4), the Sub-Committee approved it in general and, in particular (with reference to paragraphs 3.1 to 10.2 and annexes 1 to 14), took action as summarized hereunder.

New traffic separation schemes (TSSs)

New Traffic Separation Scheme "In the Approaches to the Port of Thessaloniki"

3.25 The Sub-Committee noted that the proposed TSS could have been extended for approximately one and a half miles at its north bound end. However due to reasons dealing with the avoidance of the anchorage area in general, taking into account its estimated forthcoming amendments and also with the expansion of the international airport runway which was already in progress, it was decided to proceed at this stage, with the current scheme and evaluate the situation as soon as the TSS become operational. No Inshore Traffic Zone was proposed, due to the narrow passages, the existing aids to navigation and small vessels intending to cross the area, which have to comply with COLREGs.

3.26 The Sub-Committee approved the proposed new traffic separation scheme "In the Approaches to the port of Thessaloniki" with some corrections to the description as set out in annex 1, which the Committee is invited to adopt.

New Traffic Separation Schemes for the "Åland Sea"

3.27 The Sub-Committee approved the proposed three new traffic separation schemes, "North Åland Sea", and "South Åland Sea" with corrections to the description as set out in annex 1, which the Committee is invited to adopt.

New Traffic Separation Scheme "In Liverpool Bay"

3.28 The Sub-Committee noted that the United Kingdom had addressed the concerns raised in the working group and demonstrated a "compelling need" for a routeing measure regarding vessel access to the Douglass Field Platform. This included a navigational risk assessment addressing the purpose, background, and justification for the proposal. Highlighted areas included accidents and hazardous incidents investigated by the United Kingdom Marine Accident Investigation Branch (MAIB), illustrations of vessel traffic patterns in the area and a design criteria checklist based on section 6 of the General Provisions on Ships' Routeing.

3.29 The Sub-Committee noted that the working group had considered two routeing options:

.1 a Traffic Separation Scheme (TSS) with an Area To Be Avoided (ATBA) centred on the Douglas Platform within the separation zone, if the proposal had demonstrated a compelling need; or

.2 one-way routes separated by separation lines, if the proposal had demonstrated a less compelling need.

3.30 The Sub-Committee also noted that the working group had debated the issue and decided that a TSS, with an ATBA established 1 nm square around the platform, would be the preferred option.

3.31 The Sub-Committee approved the proposed new traffic separation scheme "In Liverpool Bay" with some corrections to the description as set out in annex 1, which the Committee is invited to adopt.

Amendments to existing traffic separation schemes (TSSs)

Amendments to the existing traffic separation scheme "In the approach to Boston, Massachusetts"

3.32 The Sub-Committee approved the proposed amendments to the north-south leg of the existing traffic separation scheme "In the approach to Boston, Massachusetts" with some corrections to the description as set out in annex 1, which the Committee is invited to adopt.

Amendments to the existing Traffic Separation Scheme "Off Land's End, between Seven Stones and Longships"

3.33 The Sub-Committee approved the proposed amended traffic separation scheme "Off Land's End, between Seven Stones and Longships" with some corrections to the description as set out in annex 1, which the Committee is invited to adopt.

Amendments to the existing Traffic Separation Scheme "In the approaches to the River Humber"

3.34 The Sub-Committee agreed with the objectives of the proposal and the need to extend the existing TSS in the North East approaches to the River Humber. However, the Sub-Committee noted that the existing coordinates were based on Ordnance Survey of Great Britain 1936 Datum and it was necessary to update them. The delegation of the United Kingdom provided a set of

revised geographical coordinates for the whole TSS in World Geodetic Systems 1984 Datum (WGS 84).

3.35 The Sub-Committee approved the proposed amended traffic separation scheme "In the approaches to the River Humber", with some corrections to the description as set out in annex 1, which the Committee is invited to adopt.

Amendments to the existing Traffic Separation Scheme "At Hatter Barn"

3.36 The Sub-Committee approved the proposed amended traffic separation scheme "At Hatter Barn" with some corrections to the description as set out in annex 1, which the Committee is invited to adopt.

Routeing measures other than traffic separation schemes (TSSs)

Establishment of a new recommendatory seasonal Area To Be Avoided (ATBA) "In the Great South Channel", off the east coast of the United States

3.37 The Sub-Committee approved the proposed new recommendatory **seasonal** Area To Be Avoided "In the Great South Channel" with some corrections to the description as set out in annex 2, which the Committee is invited to adopt.

Establishment of a new Area To Be Avoided (ATBA) and two new Mandatory No Anchoring Areas in the western North Atlantic Ocean, off the coast of the United States

3.38 The Sub-Committee approved the proposed new Area To Be Avoided and two new mandatory No Anchoring Areas in the vicinity of the proposed "Excelerate Northeast Gateway Energy Bridge Deepwater Port" with some corrections to the description as set out in annex 2, which the Committee is invited to adopt. The proposed "Excelerate Northeast Gateway Energy Bridge Deepwater Port" has still to be built and the implementation date of this routeing measure will be advised by the United States to the Organization.

Establishment of new deep-water routes leading to the Åland Sea

3.39 The Sub-Committee approved the proposed new deep-water routes inside the borders of the "North Åland Sea" and "South Åland" TSS with some corrections to the description as set out in annex 2, which the Committee is invited to adopt.

Establishment of a new two-way route leading to the Åland Sea

3.40 The Sub-Committee approved the proposed new two-way route leading to the "Åland Sea" with corrections to the description as set out in annex 2, which the Committee is invited to adopt.

Establishment of a new Area To Be Avoided (ATBA) "In Liverpool Bay"

3.41 The Sub-Committee approved the proposed new Area To Be Avoided (ATBA) "In Liverpool Bay" as set out in annex 2, which the Committee is invited to adopt.

Implementation of new and amended traffic separation schemes and other routeing measures

3.42 The new TSSs and amendments to the existing TSSs and other routeing measures mentioned in above paragraphs 3.25 to 3.31, 3.32 to 3.36, and 3.37 to 3.41, except 3.38, will be implemented at a date not less than six months after adoption by the Committee.

Mandatory ship reporting systems

New mandatory ship reporting system "Off the Coast of Portugal – COPREP"

3.43 The Sub-Committee approved the proposed new mandatory ship reporting system "Off the Coast of Portugal – COPREP" with some corrections as set out in annex 3, which the Committee is invited to adopt.

Amendments to the existing ship reporting system for the Papahānaumokuākea Marine National Monument, "CORAL SHIPREP"

3.44 The Sub-Committee approved the proposed amendments to the existing ship reporting system for the Papahānaumokuākea Marine National Monument, "CORAL SHIPREP" with some corrections as set out in annex 5, which the Committee is invited to adopt.

Implementation of Mandatory Ship Reporting Systems

3.45 The new mandatory ship reporting system including the amendments to the existing ship reporting system mentioned above in paragraphs 3.43 and 3.44 will be implemented at a date, not less than six months after adoption by the Committee.

The issue of the increasing number of mandatory Ship Reporting Systems

3.46 The Sub-Committee noted that the working group had discussed the issue of the increasing number of mandatory ship reporting systems and whether AIS and/or LRIT could be used to satisfy the reporting requirements in such systems. Regardless of the tools used to report, it was noted that there was a significant increase in ship traffic and an increase in the size of ships and therefore the Working Group reaffirmed the need to carefully consider issues related to ship reporting.

3.47 The Sub-Committee also noted that the Working Group, in discussing this matter, had agreed that:

.1 AIS and LRIT could not in all instances take the place of manual reporting in ship reporting systems. Manual reporting might have benefits for instance when the mariner had to take affirmative action to report, it ensured that the person on the bridge was more alert and could be made aware of issues when entering the reporting area. Additionally, since SOLAS regulation V/11.6 required that a system be capable of interaction, a ship reporting system might provide the mariner with valuable information, when entering a reporting area;

.2 there might be problems with completely replacing manual reporting within a ship reporting system with AIS because the coverage of AIS was "line of sight" on the

VHF range and there were areas where AIS shoreside coverage was incomplete or non-existent; and

.3 that Member Governments should, when considering the development of new mandatory ship reporting system proposals, consider the following issues:

.1 the technological developments, in particular, AIS and LRIT and, whether such developments should be implemented in the ship reporting system; and

.2 there might be areas where critical navigation decisions needed to be made and therefore manual reporting in such areas might distract the mariner from these decisions.

3.48 In considering the way forward on this issue, the Sub-Committee agreed that any review should be done in the context of SOLAS regulation V/11. Furthermore, that it was premature for the Sub-Committee to undertake a full-scale review of all mandatory reporting systems as AIS and LRIT were still under development. Moreover, it was noted out that in the further developments of AIS and LRIT, there might be a way to tailor such developments to meet ship reporting requirements. The Sub-Committee also agreed that Member Governments should, when they were considering the submission of a new reporting system, to review any existing system to determine whether such system could be amended to take into account of technological developments. Finally, the Sub-Committee noted that paragraph 4.4 of the Guidelines and Criteria of Ship Reporting Systems provided for the review of existing ship reporting systems and that any Member Government could bring any concerns regarding a particular system to the attention of the Organization.

4 DEVELOPMENT OF GUIDELINES FOR IBS, INCLUDING PERFORMANCE STANDARDS FOR BRIDGE ALERT MANAGEMENT

4.1 The Sub-Committee recalled that MSC 82, noting that the Sub-Committee, under its agenda item on "Review of performance standards for INS and IBS", was developing revised INS and IBS performance standards to allow for a comprehensive application of SOLAS regulation V/15, had instructed NAV 53 to take ergonomic criteria, as set out in MSC-MEPC.7/Circ.3, into consideration when discussing this issue. Furthermore, the Committee invited Member Governments and international organizations with human element expertise to participate during the deliberations at NAV 53 to ensure that the human element and, in particular, ergonomics were taken into account when reviewing the application of SOLAS regulations V/15 and V/23.

4.2 The Sub-Committee recalled also that DE 50 had considered document DE 50/10/2/Rev.1 (IACS), containing a proposal for a draft revision of the Code on Alarms and Indicators and, noting that there was general agreement on the revised Code as proposed by IACS, and recalling that MSC 79 had instructed it to co-operate on this item with appropriate sub-committees, as necessary and when requested by the DE Sub-Committee, agreed to refer the draft revised Code (DE 50/10/2/Rev.1) to NAV 53, DSC 12, FP 52 and BLG 12 for comments on issues under these Sub-Committees' purview.

4.3 The Sub-Committee noted that DE 51 had considered documents DE 51/6 and DE 51/2/2 (Secretariat), reporting on the outcome of NAV 53, DSC 12 and FP 52 and noted that NAV 53 did not have any comments on the proposed revision but noted that the work in the

DE Sub-Committee was related to the work of the NAV Sub-Committee's IBS Correspondence Group and that ongoing liaison was required and consequently NAV 53 had instructed the IBS Correspondence Group to continue liaising with the DE Sub-Committee to ensure consistent treatment of alerts, including alarms and indicators. Secondly, DE 51 had noted document DE 51/6/1 (Germany), informing it on the progress made by the NAV Correspondence Group on Integrated Bridge Systems (IBS) with regard to the development of a bridge alert management as part of the guidelines for IBS, and invited the group to continue participating in the work of the Sub-Committee on the revision of the Code on Alarms and Indicators. DE 51 had postponed the final consideration of the draft revised Code to DE 52 and requested IACS to finalize the draft revised Code on Alarms and Indicators and submit a document containing the draft revised Code on Alarms and Indicators to DE 52.

4.4 The Sub-Committee recalled further that NAV 52 had agreed with the conclusions of the Correspondence Group that more work was required on section 3 (Application), section 15 (Provision of onboard familiarization material) where guidance and requirements should be clearly differentiated and Appendix 1 (Definitions) where a definition for Human Machine Interface should be added. NAV 52 had further noted that the correspondence group had indicated the need for more work in several areas. NAV 52 had further agreed with the conclusion of the correspondence group that a revision of the performance standards for IBS should include the development of bridge resource management guidelines and be conducted in the framework of SOLAS regulation V/15. Further, the Sub-Committee had agreed that a proposal for a modular concept of INS and future revised individual performance standards should be developed further.

4.5 The Sub-Committee noted that in the view of the Technical Working Group convened at NAV 53, the existing IBS performance standards were impractical to apply and enforce. Although there was some support for further performance standards, the Group had concluded that guidelines would be more appropriate for IBS and that some parts of the items which were identified as essential for an IBS document could have a broader range of application and could be made applicable for bridge design in general. In particular, the Sub-Committee agreed with the views of the Group that the matter of "bridge alert management" needed to be developed as performance standards and that for all other IBS issues guidelines were appropriate.

4.6 The Sub-Committee also noted that NAV 53 had agreed that there was a need for extension of the target completion date of this work programme item to 2009 and that the title should be changed to "Development of guidelines for IBS, including performance standards for Bridge Alert Management". Further work was also needed on the development of guidance on the application of the modular concept for future performance standards.

4.7 The Sub-Committee further noted that NAV 53 had re-established an intersessional Correspondence Group on IBS under the leadership of Germany with the following terms of reference:

.1 develop guidelines for IBS, including performance standards for Bridge Alert Management, taking into account the need to support the comprehensive application of SOLAS regulation V/15;

.2 develop proposals for further development of a SN circular for the application of the modular concept for future performance standards;

.3 continue liaison with the Sub-Committee on Ship Design and Equipment (DE) to ensure consistent treatment of alerts, including alarms and indicators; and

.4 submit its report to NAV 54 for consideration.

4.8 The Sub-Committee briefly discussed the report by Germany (NAV 54/4), summarizing the work and recommendations of the Correspondence Group providing an outline of draft guidelines for IBS and for Bridge Alert Management had been provided as well as a proposal for a draft SN circular for the application of the modular concept to performance standards.

4.9 The Sub-Committee briefly considered document NAV 54/4/1 (Norway) providing general comments on the report of the Correspondence Group and also proposing the development of uniform alert phrases when voice alarms are used.

4.10 The Sub-Committee agreed that it would not be possible at this session for the Technical Working Group to develop a set of uniform alert phrases. This was a task which would have to be undertaken by the Correspondence Group on IBS Guidelines, which was expected to be re-established after the consideration of the report of the Technical Working Group.

4.11 The Sub-Committee agreed to refer documents NAV 54/4 and NAV 54/4/1 to the Technical Working Group to be established under agenda items 4, 9 and 24 (sub-item on presentation symbol for AIS-SART) for consideration and advice.

Establishing Technical Working Group

4.12 Having also considered agenda items 4, 9 and 24 (sub-item on presentation symbol for AIS-SART), which were deemed to be within the remit of the Technical Working Group, the Sub-Committee re-established the Technical Working Group and instructed it to consider all relevant documents submitted under agenda items 4, 9 and 24 (sub-item on presentation symbol for AIS-SART) and, taking into account any decisions of, and comments and proposals made in Plenary, undertake the following tasks:

.1 consider NAV 54/4 and, taking into account the framework for the consideration of ergonomics and the working environment in order to reduce the incidents of personal injuries and human errors (MSC-MEPC.7/Circ.3);

.1 review the outline of the draft IBS guidelines and provide comments and guidance, as appropriate (NAV 54/4, annex 1);

.2 review the draft performance standards for Bridge Alert Management and provide comments and guidance, as appropriate (NAV 54/4, annex 2);

.3 review and finalize the draft SN/Circular on Guidelines for the application of the modular concept to performance standards (NAV 54/4, annex 3);

.2 consider document NAV 54/4/1 and provide comments and guidance for the development of a set of recommended uniform alert phrases to be used in voice alarm systems for the benefit of the bridge team (NAV 54/4/1, paragraph 4);

.3 prepare the revised draft terms of reference for the Correspondence Group on IBS issues to progress work for finalization at NAV 55;

.4 prepare, as appropriate, recommendations, opinions and liaison statements to appropriate ITU bodies in relation to documents NAV 54/9 and MSC 84/23/1 (agenda item 9);

.5 prepare an amendment to SN/Circ.227, annex 2, with respect to existing AIS shipboard installations to align it with the contents of resolution MEPC.118(52);

.6 consider document NAV 54/24/1 and finalize a presentation symbol for AIS-SART and prepare an addendum to SN/Circ.243 (agenda item 24 B);

.7 take into account the role of the human element guidance as updated at MSC 75 (MSC 75/24, paragraph 15.7) including the Human Element Analysing Process (HEAP) given in MSC/Circ.878-MEPC/Circ.346 in all aspects of the items considered; and

.8 submit a report to Plenary on Thursday, 3 July 2008 for consideration.

Report of the Technical Working Group

4.13 Having received and considered the Technical Working Group report (NAV 54/WP.5), the Sub-Committee (with reference to paragraphs 3.1 to 3.10 and annex 1), took action as summarized hereunder.

Draft Guidelines for IBS

4.14 The Sub-Committee reviewed the outline of the draft IBS guidelines as given in document NAV 54/4, annex 1, and endorsed the recommendation of the Working Group that due to the broader application of the guidelines it was appropriate to use the new title "Guidelines for bridge equipment and systems, their arrangement and integration". The Sub-Committee further agreed to proceed as proposed by the Working Group with the finalization of two separate documents:

.1 guidelines for bridge equipment and systems, their arrangement and integration; and

.2 performance standards for Bridge Alert Management.

Draft performance standards for Bridge Alert Management

4.15 The Sub-Committee reviewed the outline of the draft performance standards for Bridge Alert Management and discussed the concerns raised regarding the practicality of meeting all requirements specified in module A of the draft performance standards, for all types of equipment installed on ships' bridges, if these standards should be adopted. It was considered of importance that as many as possible alarms were brought together, however questions were raised with regard to the practicality of having all the equipment on the bridge affected by these performance standards. Therefore, the Sub-Committee invited Member Governments to provide guidance on this issue.

4.16 The Sub-Committee further noted that with respect to the use of the terminology there was a need to keep consistency with the performance standards for INS, as recently adopted by the Organization.

Draft SN/Circular on guidelines for the application of the modular concept to performance standards

4.17 The Sub-Committee reviewed the draft SN/Circular on guidelines for the application of the modular concept to performance standards and finalized the draft SN/Circular as set out in annex 5 for approval by the Committee.

Voice alarms

4.18 The Sub-Committee noted that the use of standard phrases was one of the ways to promote the use of voice alarms. The delegation of Japan expressed the view that this subject should be discussed not only at this session, but also within the Correspondence Group reporting to NAV 55. The Sub-Committee concurred with the views expressed by Norway and Japan and that there were issues which needed further consideration, such as language, length of sentences, tone, accent, acknowledgement, interruption, and priority against existing audible devices required by particular regulations. It was considered of importance to further discuss the issues mentioned.

4.19 Noting the work load of the Correspondence Group, it was considered to be ineffective to add the issue of voice alarms to the work of the Correspondence Group. There was a general preference to concentrate on the finalization of the draft guidelines for bridge equipment and systems, their arrangement and integration, and the draft performance standards for Bridge Alert Management.

4.20 The Sub-Committee noted the opinion of Norway to have something done informally in preparation of a submission to NAV 55 and invited Member Governments to submit proposals on the issue to NAV 55 as the target completion of this work programme and agenda item was 2009.

Re-establishment of an intersessional Correspondence Group on IBS

4.21 The Sub-Committee re-established the intersessional Correspondence Group on IBS under the leadership of Germany* with the following terms of reference:

.1 finalize the draft guidelines for bridge equipment and systems, their arrangement and integration, taking into account the need to support the comprehensive application of SOLAS regulation V/15;

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.2 finalize the draft performance standards for Bridge Alert Management;

.3 continue liaison with the Sub-Committee on Ship Design and Equipment (DE) to ensure consistent treatment of alerts, including alarms and indicators; and

.4 submit its report to NAV 55 for consideration.

5 AMENDMENTS TO THE GENERAL PROVISIONS ON SHIPS' ROUTEING

5.1 The Sub-Committee recalled that NAV 43 had prepared and approved amendments to the General Provisions on Ships' Routeing which MSC 69 had adopted, by resolution MSC.71(69), for dissemination by SN/Circ.199, in accordance with resolution A.572(14), as amended.

5.2 The Sub-Committee recalled also that, MSC 82, having considered a proposal by Norway, the United Kingdom and IHO (MSC 82/21/3) to amend the General Provisions on Ships' Routeing (resolution A.572(14) as amended) to align them with the specifications for routeing measures boundary symbology and charting of archipelagic sea lanes adopted by IHO, had agreed to include, in the Sub-Committee's work programme, a high-priority item on "Amendments to the General Provisions on Ships' Routeing", with one session needed to complete the item.

5.3 The Sub-Committee briefly considered document MSC 82/21/3 and agreed to refer it to the Ships' Routeing Working Group to be established under agenda items 3 and 5.

Report of the Ships' Routeing Working Group

5.4 Having received and considered the received and considered the Ships' Routeing Working Group's report (NAV 54/WP.4), the Sub-Committee (with reference to paragraphs 9.1 and 9.2 and annex 15), took action as summarized hereunder.

5.5 The Sub-Committee agreed to the proposed amendments to the General Provisions on Ships' Routeing (resolution A.572(14), as amended) as set out in annex 6. The Committee was invited to adopt them, subject to confirmation by the Assembly.

5.6 The Committee was invited to delete the item "Amendments to the General Provisions on Ships' Routeing", from the Sub-Committee's work programme, as the work on this item had been completed.

6 CARRIAGE REQUIREMENTS FOR A BRIDGE NAVIGATIONAL WATCH ALARM SYSTEM

6.1 The Sub-Committee recalled that MSC 81 had considered document MSC 81/23/2 (Bahamas and Denmark) proposing to amend the 1974 SOLAS Convention to require that all ships of 150 gross tonnage and upwards and passenger ships irrespective of size shall be fitted with a Bridge Navigational Watch Alarm System (BNWAS), to be in operation when the ship is at sea, with a view to enhancing safety of navigation, taking into account the human element. Following consideration, the Committee decided to include, in the Sub-Committee's work programme and the provisional agenda for NAV 53, a high-priority item on "Carriage requirements for a bridge navigational watch alarm system", with a target completion date of 2008, and instructed NAV 52 to give a preliminary consideration to the matter.

6.2 The Sub-Committee also recalled that NAV 52 had considered, on a preliminary basis, document MSC 81/23/2 (Bahamas and Denmark) containing the proposed draft amendment to SOLAS regulation V/19.2.2 and was of the opinion that further consideration was necessary.

6.3 The Sub-Committee further recalled that NAV 53 had considered document NAV 53/6 (Denmark), proposing an amendment to SOLAS regulation V/19 to require all ships of 150 gross tonnage and upwards and passenger ships irrespective of size to be fitted with a BNWAS, which should be in operation when the ship is at sea. The Sub-Committee had also taken note of the statistical information and analysis on marine accidents due to dozing provided by Japan in document NAV 53/INF.8.

6.4 The Sub-Committee noted that at NAV 53, there had been substantial support for the proposal by Denmark to amend SOLAS regulation V/19 for a carriage requirement of a BNWAS. The majority of the delegations were of the view that installation of a BNWAS should not lead to a reduction in manning levels on the bridge of a ship and that text to this effect should be included in the preambular paragraphs of the adopting resolution. The equipment fitted should be sensor based. The observer from ICS was of the opinion that further research was necessary before a final decision was taken to mandate a carriage requirement for BNWAS. The observers from IFSMA and ITF, whilst supporting the proposal in principle, stated that concerns on fatigue should be reflected in the report. A number of delegations had supported this opinion.

6.5 The Sub-Committee also noted that the Chairman, in summing up the discussions that had taken place, had observed that there was substantial support to amend SOLAS regulation V/19 for a carriage requirement of a BNWAS. It was evident that Members were clear in their mind that carriage of BNWAS should not lead to a reduction in manning levels on the bridge. The equipment for BNWAS should include sensor-based technology and should not be seen as a solution for the problem of fatigue. Member Governments were invited to submit suitable proposals and comments for consideration at NAV 54.

6.6 The Sub-Committee considered document NAV 54/6 (Japan) supporting, in principle, the carriage requirements for a Bridge Navigational Watch Alarm System (BNWAS). Japan was of the view that the carriage requirement of the BNWAS should be applied to vessels which are allowed to sail with solo navigational watch but this did not mean that carriage of BNWAS should lead to a reduction in manning levels on the bridge. Secondly, a third stage remote audible alarm might be accepted as an option by the Administration, considering the vessel's size and/or type; the equipment which was already installed and has similar functions to the BNWAS should be accepted at the discretion of the Administration; the function of the remote audible alarm would be an option to the existing vessels and that the BNWAS might be turned off based on the Captain's decision.

6.7 The Sub-Committee also considered document NAV 54/6/1 (Denmark) proposing that a Bridge Navigational Watch Alarm System (BNWAS) was added to the carriage requirements for shipborne navigational systems and equipment in SOLAS regulation V/19.2.2.3. Denmark explained that it believed that a number of accidents could be prevented by the introduction of BNWAS, and referred to an accident in 2005 where a cargo ship collided with the combined car and rail bridge across the Great Belt. Furthermore, two groundings had occurred near the island of Bornholm, where officers of the watch were incapacitated at the time of the accident.

6.8 There was a general discussion on the matter and the majority of those who spoke on the issue supported a carriage requirement for a Bridge Navigational Watch Alarm System, in

principle, with the inclusion of a grandfather clause, i.e. the requirement that already fitted equipment might be exempted from full compliance with the existing performance standards at the discretion of the Administration.

6.9 The delegation of Singapore, supported by several delegations, proposed that carriage requirements for a Bridge Navigational Watch Alarm System be applicable only for ships above 500 gross tonnage, trading in international waters.

6.10 The Sub-Committee, using the annex to document NAV 54/6/1 as the basis, agreed draft amendments to SOLAS regulation V/19 to reflect a new carriage requirement for a bridge navigational watch alarm system, as set out in annex 7, and invited the Committee to approve it with a view to adoption at its eighty-sixth session.

6.11 Several delegations expressed the view that the installation of a Bridge Navigational Watch Alarm System should be carried out during a scheduled dry-docking period, as the installation would involve running signal lines to parts of the ship other than the bridge and that the penetration of a wall required approval of the Administration or a Recognized Organization. For some ships this scheduled dry-docking might fall before the implementation dates and the attention of shipowners should be drawn to this.

6.12 The Committee was consequently invited to delete the item "Carriage requirements for a bridge navigational watch alarm system", from the Sub-Committee's work programme, as the work on this item had been completed.

7 REVIEW OF COLREGs REGARDING THE RIGHT OF WAY OF VESSELS OVER PLEASURE CRAFT

7.1 The Sub-Committee recalled that MSC 82 had discussed at length document MSC 82/21/4 (Italy) proposing, with a view to establishing the priority of vessels over certain craft, exclusively used for recreational purpose, in order to reduce the risk of collision in restricted areas with high density of pleasure craft and where it was difficult to manoeuvre safely for large vessels, to develop amendments to COLREGs so as to give vessels the right of way over pleasure craft, and, having recognized the need for detailed discussion of technical aspects of the issue, agreed to include, in the Sub-Committee's work programme, a high-priority item on "Review of COLREGs regarding the right of way of vessels over pleasure craft", with one session needed to complete the item.

7.2 The Sub-Committee also recalled that NAV 53 had noted with interest the relevant information provided by Italy (NAV 53/INF.9) for amending the COLREG, as set out in document MSC 82/21/4. Italy wanted to underline that, if this general principle was recognized and endorsed, it would increase the level of safety at sea and would serve to prevent accidents in the future.

7.3 The Sub-Committee further recalled that NAV 53 had noted with interest document NAV 53/21/3 (ISAF), supporting any practical initiative to help prevent accidents, but strongly recommending that the case, set out in document NAV 53/INF.9 (Italy), did not justify the proposed changes to COLREG.

7.4 The Sub-Committee considered document NAV 54/7 (Italy) providing relevant proposals for the revision of the COLREG, as amended, regarding the right of way of vessels over pleasure craft. Italy proposed that Rules 3, 8, 15, 17, 18, 25 and 34 of the COLREG be amended, in order

to reduce the risk of collision especially in areas with high density of pleasure crafts and where it is difficult to operate safely for large vessels.

7.5 The delegation of Italy further clarified that it was alternatively willing, taking into account the ongoing studies aimed at extending the use of AIS for non-SOLAS vessels, to consider the use of AIS (class B) on board pleasure crafts in order to reduce the risk of collision, with particular reference to areas of high density or maritime traffic.

7.6 The Sub-Committee also considered document NAV 54/71 (ISAF and IAIN), fully supporting any practical initiative to help prevent accidents at sea but strongly recommending that the case set out by Italy did not justify the suggested changes to COLREG and could cause confusion and a reduction in safety. COLREG define craft by their ability to keep clear and take into account any restriction in their manoeuvrability. Italy (NAV 53/INF.9) had proposed a fundamental departure from that principle, categorizing vessels by their usage rather than a vessel's own characteristics and ability to manoeuvre. Such a departure could lead to complicated and dangerous situations in which, for example, a sailing vessel trying to keep clear without propulsion power, to do so would have to resort to becoming a vessel not under command (Rule 3(f)), and a commercial vessel would have to spend time identifying whether the small craft concerned was another commercial craft or a pleasure craft.

7.7 The Sub-Committee further considered document NAV 54/7/2 (New Zealand) providing comments on the proposed amendments to the COLREG, as amended and proposed alternative options. New Zealand considered that the proposed amendment would not achieve the objectives for a number of reasons and instead proposed using Rule 1(b) of the COLREG, ships routeing measures, national legislation to set regional shipping controls and educational awareness campaigns to highlight the present COLREG for recreational users via licensing or registration.

7.8 A large number of delegations including observers spoke on the issue. Most of the delegations shared Italy's concern regarding the risk of collision especially in areas with high density or pleasure crafts and where it was difficult to operate safely for large vessels. Nevertheless, a large majority was not in favour of amending the COLREG at this stage and instead favoured a local approach based on national regulations, educational awareness campaigns and other practical measures aimed at recreational craft. There was no support for the proposed amendments to the COLREG and Italy was consequently invited to reconsider and revise their proposal, taking into account the results of further studies and developments with regard to non-SOLAS vessels, in respect of AIS (Class B).

7.9 The Sub-Committee requested Members to provide information to interested States to carry out more studies on the issue. The delegation of Italy informed the Sub-Committee that Italy would continue to collect and analyse data on casualty accidents involving vessels and pleasure crafts and at the same time follow the studies within IMO for non-SOLAS vessels, in respect of AIS (Class B). Italy would like also to support the request of the Sub-Committee to interested Member States and international organizations for a coordinated action to continue further studies and to contribute to a very constructive discussion for finding a common solution to this very sensitive matter regarding the risk of collision especially in areas with high density of pleasure crafts, where it was difficult for large vessels to operate safely.

7.10 The Committee was invited to consequently delete the item "Review of COLREGs regarding the right of way of vessels over pleasure craft" from the Sub-Committee's work programme, as the work on this item had been completed.

8 AMENDMENTS TO COLREG ANNEX I RELATED TO COLOUR SPECIFICATION OF LIGHTS

8.1 The Sub-Committee recalled that MSC 80 (MSC 80/24, paragraph 21.24.1), based on a proposal by Norway (MSC 80/21/8), had agreed to add a high priority work item on "Revision of Annex I of the Convention on the International Regulations for Preventing Collisions at Sea, 1972, (COLREGs)" to the work programme of the Sub-Committee, with two sessions needed to complete the work.

8.2 The Sub-Committee recalled also that NAV 52 briefly considered the Norwegian proposal (NAV 52/8). The delegation of the Netherlands stated that the use of established industrial standards wherever possible, specifically those emanating from international standardization bodies, should be pursued by the Organization and its Members. Norway had proposed the revision of the standards, as revised by the International Commission on Illumination, however, the reasons behind the revision had not been elaborated on and neither had Norway clarified the consequences of the proposed changes to section 7 (Colour specification of lights) of Annex I of the COLREG. The Netherlands for that reason and without the safety benefits having been demonstrated by way of an FSA study, could not accept the Norwegian proposal. A number of delegations had supported the views expressed by the Netherlands, including the need for an FSA study and a Cost Benefit Analysis. Accordingly, the Sub-Committee requested Norway to re-consider its proposal and submit a revised document to NAV 53. Norway agreed to this and will possibly submit a revised proposal.

8.3 The Sub-Committee recalled further that at NAV 53, the delegation of Norway had advised that it had not been able to submit any document to this session as indicated at NAV 52. Norway, however retained its position that COLREG Annex I related to colour specification of lights needed to be amended. The current situation was that COLREG Annex I, section 7, stated that the standards specified in COLREG lay within the boundaries of the area of the diagram specified for each colour by the International Commission on Illumination (CIE). As CIE had amended their diagrams, this was no longer the case and the x and y coordinates specified in COLREG did not any longer coincide with the coordinates specified by the CIE. Amending the COLREG was therefore a kind of housekeeping that in Norway's view needed to be done. However, it was recognized that the housekeeping had some consequences. The Norwegian delegation therefore proposed that the Sub-Committee requested the Committee for an extension of the target completion date of this item to 2008. Accordingly, Norway would submit a proposal to NAV 54 and try to make the submission as early as possible to give the Sub-Committee ample time to study the proposal.

8.4 The Sub-Committee also recalled that NAV 53 had invited Member Governments and NGOs to submit comments and suitable proposals for consideration at NAV 54. The Committee was invited to extend the target completion date of this agenda item to 2008, which was agreed to by MSC 83.

8.5 The delegation of Norway stated that when raising the issue under consideration, it had been of the opinion that due to the revision of the CIE standard on Colours of Signal Lights there was an inconsistency between part 1 and part 2 of section 7 in Annex I of COLREG. However, having been made aware that part 1 of section 7 did not refer to the CIE standard in its entirety, but only to the diagram specified for each colour, and as the coordinates in part 2 of section 7 were within the boundaries of the diagram, Norway no longer saw any inconsistencies within the regulation and thus withdrew the proposal to amend COLREG.

8.6 The Committee was invited to consequently delete the item "Amendments to COLREG Annex I related to colour specification of lights", from the Sub-Committee's work programme, as the work on this item had been completed.

9 ITU MATTERS, INCLUDING RADIOCOMMUNICATIONS ITU-R STUDY GROUP 8 MATTERS

9.1 The Sub-Committee recalled that MSC 82 had extended the target completion date of this agenda item to 2009.

9.2 The Sub-Committee also recalled that NAV 53 had noted document NAV 53/9 (Secretariat) containing a revised version of Recommendation ITU-R M.1371-2, which had been adopted by ITU-R Study Group 8 and document NAV 53/9/1 (Secretariat) containing the revised version of Recommendation ITU-R M.824-2, which had also been adopted by ITU-R Study Group 8 and brought to the attention of IMO.

9.3 The Sub-Committee further recalled that NAV 53 considered document NAV 53/9/2 (United Kingdom) relating to the need in any band-sharing considerations, for a "safety margin" to allow for the additional protection for variations in performance from different radar operators, under various environmental and other conditions because all of the maritime trials reported in ITU-R were carried out using non-fluctuating simulated marine targets. NAV 53 noted that need and concurred that there was also a need to bring this to the attention of the radio regulatory authorities and agreed a draft MSC circular on Safety margins to protect radar systems. Subsequently, MSC 83 had approved MSC.1/Circ.1250 on Safety margins to protect radar systems.

Impact of resolution MEPC.118(52) upon existing AIS shipboard installations

9.4 The Sub-Committee noted that MSC 84 had referred document MSC 84/23/1 (IALA), relating to the need for possible modification of hardware of all AIS units following the entry into force of the 2004 amendments to MARPOL Annex II on 1 January 2007, to NAV 54 for consideration under the item on "ITU matters, including Radiocommunication ITU-R Study Group 8 matters" and instructed it to report the outcome to MEPC 58 and MSC 85.

9.5 The Sub-Committee considered documents MSC 84/23/1 (IALA) and NAV 54/9 (Secretariat), aiming at solving the problem without any change to the hardware. Considering that the number of categories to be reported was the same (4), the Sub-Committee agreed that it would be sufficient to revise the reference documents, annex 2 of SN/Circ.227 and ITU-R Recommendation M.1371-3, to reflect the new classification letters corresponding to the digits, without any change to the hardware.

9.6 The Sub-Committee also agreed to refer documents MSC 84/23/1 and NAV 54/9 to the Technical Working Group established under agenda item 4 for further consideration and advice.

Satellite detection of AIS

9.7 The Sub-Committee considered documents NAV 54/9/1, NAV 54/INF.2 and NAV 54/INF.10 (Secretariat) relating to the issue of improved satellite detection of AIS.

9.8 The Secretariat brought to the attention of the Sub-Committee, the last paragraph of the liaison statement from ITU-R WP5B's February 2008 meeting to IMO, IALA and CIRM,

concerning the Preliminary draft new report ITU-R M.[SAT-AIS] on Improved satellite detection of AIS contained in document NAV 54/9/1. IMO had been invited to request ITU to initiate steps to implement the "improved satellite detection" as prescribed in the preliminary draft new report, given in document NAV 54/INF.2. Furthermore, ITU advised that, to effect the operation of this improved satellite detection, IMO was invited to consider the need to specify modifications to the shipborne AIS Class A equipment.

9.9 The Sub-Committee noted that, up to now, the issue of satellite detection of AIS as such had never been discussed in detail by the Committee or one of its relevant Sub-Committees, e.g., COMSAR or NAV and as such, there was no policy direction on this issue.

9.10 The Sub-Committee also noted that document NAV 54/INF.10 contained the advice on this issue from the Joint IMO/ITU Experts Group on Maritime radiocommunication matters. The Experts Group considered it to be of importance for IMO to firstly make a clear decision whether it was supporting this issue, or whether there was no interest. Secondly, it was considered of utmost importance for IMO to inform ITU quickly of its policy direction in this regard. The Group further was of the view that there would be a need to revise the Performance Standards for AIS Class A equipment, when there would be a decision for a mandatory requirement. As a result of this every ship would then need a software upgrade. Finally the Group advised that, in principle, everyone who would be able to receive these signals could use the information collected, also for commercial activities. In this regard, the Group recalled that MSC 79 had considered matters relating to freely available AIS generated ship data and the attendant security risks. The Committee agreed at that time that the publication on the world-wide web or elsewhere of AIS data transmitted by ships could be detrimental to the safety and security of ships and port facilities and was undermining the efforts of the Organization and its Member States to enhance the safety of navigation and security in the international maritime transport sector.

9.11 The observer from ICS advised the Sub-Committee that the need for a new frequency would in fact require every existing AIS equipment to be replaced.

9.12 The Sub-Committee was of the opinion that for the present it was premature to further address the issue of satellite detection of AIS and agreed to:

.1 bring the matter to the attention of the Committee with the aim of getting a clear policy direction; and

.2 send an interim liaison statement to ITU explaining that further discussion in IMO was needed before any guidance on this issue could be given; the liaison statement should be sent as soon as possible in order to inform ITU-R WP5B in time for its next meeting to be held in October this year.

9.13 The Sub-Committee invited the Committee to take a clear decision on whether it was supporting the issue of satellite detection of AIS, taking into account that:

.1 in principle, everyone who would be able to receive these signals could use the information collected, also for commercial activities; and

.2 there might be a need to subsequently specify modifications to the shipborne AIS Class A equipment.

9.14 The Sub-Committee invited Member Governments also to submit proposals on the issue to MSC 85, as appropriate.

9.15 In light of the foregoing, the Sub-Committee instructed the Secretariat to send a liaison statement to ITU-R WP 5B on satellite detection of AIS, copied to IALA and CIRM, as set out in annex 8 and invited the Committee to endorse this action.

Report of the Technical Working Group

9.16 Having received and considered the Technical Working Group's report (NAV 54/WP.5), the Sub-Committee (with reference to paragraphs 4.1 to 4.5 and annexes 2 and 3), took action as summarized hereunder.

Impact of resolution MEPC.118(52) upon existing AIS shipboard installations

9.17 While taking into account that the Sub-Committee had noted that the number of categories to be reported remained the same (4), it was agreed that as a cargo re-evaluation had led to a substantive change from an operational perspective there was a need to make the users aware of the fact that the categories nomenclature A, B, C and D had been changed to X, Y, Z and OS. Accordingly, the Sub-Committee revised annex 2 (Type of ship table) of SN/Circ.227 and prepared a draft SN circular on corrigenda to SN/Circ.227 on Guidelines for the installation of a Shipborne Automatic Identification System (AIS), as set out in annex 9 for approval by the Committee.

9.18 The Sub-Committee further finalized a draft liaison statement to ITU, IEC and IALA, as set out in annex 10, informing them of the change to hazard or pollutant categories and inviting them to note this in any future revision of their documentation. The Committee was invited to approve the liaison statement and authorize the Secretariat to convey it to ITU, IEC and IALA.

9.19 The Sub-Committee also noted that there was a need to update the STCW model course on Automatic Identification Systems (Model Course 1.34) and invited the Secretariat to inform the STW Sub-Committee accordingly.

9.20 The Sub-Committee further invited the Secretariat to inform the Maritime Safety Committee and the Marine Environment Protection Committee on the outcome of the deliberations with respect to the impact of resolution MEPC.118(52) upon existing AIS shipborne installations, which had resulted in a draft revision of annex 2 (Type of ship table) of SN/Circ.227 including a relevant draft liaison statement to ITU, IEC and IALA.

10 CODE OF CONDUCT DURING DEMONSTRATIONS/CAMPAIGNS AGAINST SHIPS ON THE HIGH SEAS

10.1 The Sub-Committee recalled that following consideration of document MSC 82/21/8 in which Japan, being concerned with serious accidents, including collisions of ships, when non-State activist groups protesting against certain maritime activities have conducted direct actions against ships, proposed to establish a code of conduct for demonstrators/campaigners, which would provide a recommendatory set of guidelines for demonstrators and related authorities to ensure and promote safety of crew, maintain the order of maritime navigation and preserve the right and opportunity for a peaceful demonstration, MSC 82 had agreed to include, in the NAV and FSI Sub-Committees' work programmes, a high-priority item on "Code of

conduct during demonstrations/campaigns against ships on high seas", with two sessions needed to complete the item, and assigned the NAV Sub-Committee as a coordinator.

10.2 The Sub-Committee also recalled that NAV 53 had noted with interest the information provided by Japan (NAV 53/INF.11) on the need for the development of a code of conduct to assure the safety of crew and maritime navigation during demonstrations/campaigns against ships on the high seas, including Japan's request that a corresponding item be included in the provisional agenda for NAV 54.

10.3 The Sub-Committee considered the proposal by Japan (NAV 54/10/1) on the need for the development of a code of conduct to assure the safety of crew and maritime navigation during demonstrations/campaigns against ships on the high seas including a draft text of the proposed code. This proposed code of conduct was a non-mandatory instrument and no amendment or revision would be needed to other IMO instruments.

10.4 The Sub-Committee also considered documents NAV 54/10 and NAV 54/10/2 (Greenpeace International) stating that the case for any new instrument had not been convincingly made and any such new instrument or document would not enhance the effectiveness of existing international maritime safety instruments. Any new instrument or document, as proposed, involved political and legal matters which lay outside the field of maritime safety and would touch on major issues with respect to legitimate freedom of expression and international human rights law. Accordingly, Greenpeace recommended that the Sub-Committee should decide not to develop any new instrument or other document. However, should the Sub-Committee decide to develop a new instrument or document, Greenpeace urged that this should be non-binding and balanced, and simply underscore existing instruments that already protect safety of navigation while also recognizing the internationally guaranteed right to freedom of expression. Greenpeace International (NAV 54/10/2) considered that the proposed code:

.1 would not enhance the safety of international maritime navigation;

.2 involved political and legal matters with respect to legitimate freedom of expression and international human rights law which lay outside of the field of maritime safety; and

.3 should not be used as the basis for any new instrument.

10.5 The Chairman informed the Sub-Committee that in his view, the following two points were of relevance:

.1 it would not be possible, practical or necessary for the Sub-Committee to explore in detail all the implications of an internationally agreed right to freedom of expression in developing the proposed Code if the focus was strictly on safety of navigation; and

.2 it would not be possible, practical or necessary for the Sub-Committee to engage in an examination of circumstances under dispute in this respect and it could do no more than note the position taken by Greenpeace.

10.6 The Chairman also informed the Sub-Committee that in his view it would be prudent for the Sub-Committee to strictly confine its consideration of the issue to the safety of navigation

aspects. However, in the event that the discussion demonstrated that legal issues would form an inevitable and essential part of the development of the proposed Code and would take the Sub-Committee away from the focus on safety of navigation, it would be prudent for it to suspend work on the Code and ask the Committee for further guidance.

10.7 The Chairman advised the Sub-Committee that it was his firm intention to keep the latter option open if and when it became clearer that progress could not be made without embarking on the legal aspects. The Chairman concluded by inviting the Sub-Committee to take his views into account during its further consideration of the issue.

10.8 There was an extensive discussion on the issue. The delegation of Sweden, supported by the majority of delegations who spoke on the issue, shared the concerns of Japan in general, but was of the opinion that the proposed code of conduct would add no value to other international instruments addressing the issue under debate that already existed. Those delegations preferred either a draft MSC circular or a resolution to be developed, which would essentially recall the existence and stress the importance of complying with existing instruments to all parties concerned.

10.9 The Sub-Committee decided not to develop a Code of conduct but develop a draft MSC resolution and, with a view to progressing the issue further, decided to establish a Drafting Group to finalize a draft MSC resolution on the matter.

Establishing Drafting Group

10.10 Having considered the issue further, the Sub-Committee established a Drafting Group with the following terms of reference:

> The Drafting Group should, taking into account documents NAV 54/10, NAV 54/10/1 and NAV 54/10/2 and comments and decisions made in Plenary, prepare:
>
> .1 a draft MSC resolution on demonstrations/campaigns against ships on high seas, on the basis of a first outline orally presented in Plenary by the Australian delegation; and
>
> .2 submit a report for consideration at Plenary on Friday, 4 July 2008.

Report of the Drafting Group

10.11 Having received and considered the Drafting Group's report (NAV 54/WP.9), the Sub-Committee (with reference to paragraphs 3 and 4 and the annex) took action as summarized hereunder.

10.12 The Sub-Committee, using the first outline presented by the Australian delegation as a basis, prepared a draft MSC resolution on Assuring safety during demonstrations, protests, or confrontations on the high seas.

10.13 The Sub-Committee noted that the Drafting Group had discussions covering a wide range of issues pertaining to demonstrations, protests, or confrontations on the high seas. There were four issues on which there was significant debate:

.1 in discussing collision avoidance, one delegation preferred that there would be a specific reference in the resolution to the fact that vessels should maintain a "safe distance". While this was referred to in Rule 8 of COLREG, several delegations did not support calling out only certain provisions of this instrument and therefore a reference to safe distance was not included in the draft resolution;

.2 one delegation requested that a provision be added that called on demonstrators to refrain from dangerous activities. It was pointed out that the draft resolution already had provisions that addressed this issue. Moreover, it was the understanding of the Group that any obligation regarding the need to refrain from dangerous activities should apply equally to all vessels during demonstrations, protests, or confrontations. Therefore no further language was included on this point;

.3 the Group agreed that in referring to vessels involved during demonstrations, protests, or confrontations, the intention was that this be read broadly to include the vessel conducting the protest as well as the vessel subject to protest; and

.4 the Group could not reach consensus on the issue related to the relative advantages and disadvantages between simplicity and a more comprehensive description listing specific international instruments on human rights and obligations. Some delegations expressed the concern that by adopting the more comprehensive descriptive paragraph, this resolution would be getting into the area of international human rights. This was an area in which the Organization was not the specialized agency of the United Nations or over which the Organization had any special competence. One delegation expressed the view that explicit reference to relevant international conventions was necessary, with the view to establish that freedom of expression and peaceful assembly were rights guaranteed by international law, and that the application of maritime safety instruments should be in conformity with these rights. On this issue, the Group included an option in the draft resolution that received the most support. Alternatively, respecting the divergence of opinion, the following text was developed which could be considered by the Sub-Committee on Flag State Implementation and the Maritime Safety Committee: "AFFIRMING the rights to legitimate and peaceful forms of protest and demonstration and noting that there are international instruments that may be relevant to these rights for example, the 1948 Universal Declaration of Human Rights and the 1966 International Covenants on Human Rights which also state that the right to protest carries with it special duties and responsibilities and may therefore be subject to certain restrictions".

10.14 The Sub-Committee agreed to the provisional draft MSC resolution on Assuring safety during demonstrations, protests, or confrontations on the high seas, as set out at annex 11 as work in progress, and invited the FSI Sub-Committee to consider the text for advice, with the aim of finalization of the text of the draft MSC resolution at NAV 55.

10.15 The Sub-Committee further noted that concern was expressed on the use of word "intentionally" in operative paragraph 2 of the draft MSC resolution and secondly, that a reference to the mandatory Code of International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident (Casualty Investigation Code)

should also be made in operative paragraph 5 of the resolution. The Chairman invited Contracting Governments to submit comments/proposals thereon.

10.16 The Sub-Committee noted that the genesis of this provisional draft MSC resolution was Japan's proposal in document NAV 54/10/1, regarding the development of a "Code of Conduct for Assurance of the Safety of Crew and Maritime Navigation during Demonstrations/Campaigns against Ships on the High Seas". The delegation of Japan expressed appreciation that the provisional draft MSC resolution expressed serious concern and condemnation of actions that intentionally imperil human life, marine environment or property during demonstrations, protests, or confrontations on the high seas such as those perpetrated against Japan's whale research vessels in the Antarctic. Japan remained concerned that an MSC resolution, by itself, would not prevent or suppress the actions that risk human life and property at sea and Japan would continue to call on all States, in particular flag States, port States and States where organizations involved in protests at sea that endanger life and property were registered, to apply all relevant rules of international laws and respective national laws and regulations, and to co-operate to prevent such actions.

11 MEASURES TO MINIMIZE INCORRECT DATA TRANSMISSIONS BY AIS EQUIPMENT

11.1 The Sub-Committee recalled that MSC 82 following consideration of document MSC 82/21/10 (Egypt) proposing to develop a scheme to minimize incorrect transmissions by the ship's AIS equipment, agreed to include, in the Sub-Committee's work programme, a high-priority item on "Measures to minimize incorrect data transmissions by AIS equipment", with two sessions needed to complete the item, in co-operation with the FSI Sub-Committee (with regard to port State control-related matters) and the COMSAR Sub-Committee, as necessary. Member Governments and international organizations were invited to provide the pertinent information to the sub-committees concerned.

11.2 The Sub-Committee considered document MSC 82/21/10 (Egypt) suggesting a method to ensure that messages sent by AIS equipment from ships were more accurate.

11.3 The observer from IALA reminded the Sub-Committee that IALA had submitted to NAV 53 an information document (NAV 53/INF.10) relating to AIS incorrect transmissions. The IALA observer also recalled in this context about the recently adopted MSC Circular (MSC.1/Circ.1252) on Guidelines on annual testing of the Automatic Identification System (AIS) aimed at minimizing incorrect data transmissions by AIS equipment. The Sub-Committee took note of the information provided.

11.4 The Sub-Committee, noting that no other substantial proposals had been submitted on this issue to this session for consideration, agreed to defer further consideration of this item to NAV 55.

11.5 Members were invited to submit suitable proposals for consideration at NAV 55.

12 WORLD-WIDE RADIONAVIGATION SYSTEM

12.1 The Sub-Committee recalled that NAV 52 had briefly discussed the relevant part of document NAV 52/10 (United States) relating to the approval of a draft liaison statement to IEC Technical Committee 80, Working Group 4A, to take into account the high electromagnetic environment in the development or revision of relevant standards,

including IEC Standard 61108 – "Maritime navigation and radiocommunication equipment and standards – Global Navigation Satellite Systems (GNSS)". The Sub-Committee had noted with interest the information provided by the Republic of Korea (NAV 52/INF.8) concerning communication techniques for high accuracy DGPS in the Republic of Korea.

12.2 The Sub-Committee also recalled that NAV 52 had agreed with the views of its Technical Working Group in regard to the results of commercial GPS antenna vulnerability tests to high power military radars, and that, whilst the results of the tests presented showed some possible problems of damage to GPS antennas, the Sub-Committee was not aware of a widespread problem of this nature with civil use. Accordingly, the Sub-Committee did not consider that it had sufficient evidence of a problem and had agreed with the Group's opinion that a liaison statement to IEC Technical Committee 80 was therefore not necessary at this stage.

12.3 The Sub-Committee further recalled that NAV 52 had also noted that, with respect to resolution A.915(22) concerning the IMO policy for GNSS and resolution A.953(23) concerning recognition of radionavigation systems as components of the WWRNS, there was agreement that no action needed to be taken at that session.

12.4 The Sub-Committee recalled that, NAV 53 had observed that no document had been submitted on this agenda item. The United States had advised the Sub-Committee that it had received no new information on the subject of military radar interference with GNSS signals. The Sub-Committee therefore had agreed that there was no need to forward any liaison statement to IEC Technical Committee 80. The United States had further advised the Sub-Committee that it intended to resubmit DGPS for acceptance as a component of the world-wide radionavigation system (WWRNS). The United States was at that stage validating that the DGPS signal met the relevant performance standards over the required (3-year) period of time.

12.5 The observer from the European Commission provided an update on the progress concerning the European Galileo navigation satellite programme. As reported earlier at MSC 76, the GALILEO programme, developed by the European Commission in conjunction with the European Space Agency, was moving ahead to the development of the final system. Since the European Council decision of 30 November 2007, the overall programme was managed by the European Commission DG TREN, with the assistance of the GNSS Supervisory Authority (GSA), an EU agency established to monitor the future concessions of the GALILEO operations. The European Space Agency would act as project manager and integrator on behalf and under the control of the European Commission. GALILEO was a civilian-controlled satellite system that provided global position and timing information to multimodal users and the maritime community was expected to form a small but extremely important section of the overall GALILEO user base. Initial analyses, as reported at NAV 49, had indicated that GALILEO, standalone, would meet the maritime requirements for general navigation in the ocean, coastal, port approach and restricted waters operations as specified in resolution A.915(22). GSA had already started with some European stakeholders (EMSA, national authorities) the certification process for GALILEO. The first phase of the programme to validate the technical options for the system and to create the conditions necessary for the rapid deployment of the infrastructure was now well underway with the successful launch of the second and last of two test satellites, GIOVE B, on 27 Apri1 2008. The full operational capacity of GALILEO was expected for 2013. EGNOS, the former testbed of GALILEO, had now become a complete separate product, forming a so-called augmentation system as was WAAS in the United States and would be commercially exploited starting in 2009 as it was already technically operational. EGINOS was using the GPS signal, two complementary satellites and ground computations to improve the accuracy of the GPS information. It covered the whole of Europe and its coastal waters, would be

extended in the near future to the whole of the Mediterranean Sea, and might later cover also Africa. EGNOS should remain operational for at least 20 years.

12.6 The Sub-Committee noted with interest the information provided by the observer from the European Commission, including the update on the development of the GALILEO programme and the EC's continued intention to offer GALILEO for consideration as a component of the World-Wide Radionavigation System (WWRNS).

12.7 The Sub-Committee also noted that for the second time no documents had been submitted under this agenda item and decided to consequently propose the deletion of this agenda item from the Sub-Committee's work programme (paragraph 22.5.1 refers) in accordance with paragraph 3.15 of the Committee's Guidelines (MSC-MEPC.1/Circ.2).

13 DEVELOPMENT OF AN E-NAVIGATION STRATEGY

13.1 The Sub-Committee recalled that MSC 81 had considered document MSC 81/23/10 (Japan, the Marshall Islands, the Netherlands, Norway, Singapore, the United Kingdom and the United States) proposing to develop a broad strategic vision for incorporating the use of new technologies in a structured way and ensuring that their use is compliant with the various navigational communication technologies and services that are already available, with the aim of developing an overarching accurate, secure and cost-effective system with the potential to provide global coverage for ships of all sizes.

13.2 The Sub-Committee also recalled that following discussion, MSC 81 had decided to include, in the work programmes of the NAV and COMSAR Sub-Committees and the provisional agendas for NAV 53 and COMSAR 11, a high priority item on "Development of an e-navigation strategy", with a target completion date of 2008, and assigned the NAV Sub-Committee as coordinator, instructing NAV 52 to give preliminary consideration to the matter. MSC 81 also agreed that the two Sub-Committees should consider the issues with the aim of developing a strategic vision within their associated work programmes for taking this issue forward and to report to MSC 85, for it to develop the necessary policy direction for further progress of this important work.

13.3 The Sub-Committee further recalled that NAV 52 had considered documents MSC 81/23/10 and NAV 52/17/4 (Japan) outlining Japan's approach to e-navigation and, to progress the work for NAV 53, established an intersessional Correspondence Group under the coordination of the United Kingdom instructing it to submit a document to COMSAR 11 raising specific questions that should be addressed by COMSAR and prepare a comprehensive report for submission to NAV 53.

13.4 The Sub-Committee recalled also that COMSAR 11 had agreed that the user requirements should be clearly defined by the NAV Sub-Committee before the COMSAR Sub-Committee could review the technical improvements that might be required if GMDSS equipment was to be utilized as a data communication network for E-Navigation; the development of E-Navigation should be user-driven and not technology driven; there should be equipment performance standardization, including a standard mode of operation for shipboard equipment, and the software installed in operating systems should follow a formal change control process to ensure that all elements of the E-Navigation system would operate efficiently. COMSAR 11 had also agreed that with respect to the potential components of the E-navigation strategy and proposed system architecture, issues connected with search and rescue, data communication links, and operation of the GMDSS were within its remit. COMSAR 11 had further agreed that the existing GMDSS infrastructure supported SAR services and communications; however, with respect to

E-navigation, broadband communication on a global basis using satellite technology would be necessary.

13.5 The Sub-Committee recalled further that NAV 53 had convened a Working Group, which finalized a provisional definition of e-navigation and core objectives of e-navigation. NAV 53 had further agreed that the key outcomes agreed by the Correspondence Group were broad expectations rather than outcomes and should be taken into account as a starting point when developing the users' requirements. With respect to the gap analysis, NAV 53 was of the view that it should be undertaken after development of users' requirements. NAV 53 had re-established the Correspondence Group, which subsequently submitted a document to COMSAR 12, raising specific questions which should be addressed by COMSAR and also prepared a final comprehensive report, including an information document for consideration by NAV 54.

13.6 The Sub-Committee noted that COMSAR 12 had considered the report of the Correspondence Group (COMSAR 12/11), and agreed that for e-navigation purposes, the COMSAR Sub-Committee should consider the implications of developing a common information data source, delivering resilient communications, data provision and integrity, based on the requirements and the general conclusions from the preliminary user needs analysis. The outcome of COMSAR 12 was submitted to the Coordinator of the Correspondence Group.

13.7 The Sub-Committee observed that MSC 84 (MSC 84/24, paragraph 7.4) had noted and endorsed the progress made in the development of an e-navigation strategy.

13.8 The Sub-Committee also recalled the Secretary-General's remarks at the opening session of the Sub-Committee underlining the need to finalize the development of an e-navigation strategy.

13.9 The Sub-Committee briefly discussed documents NAV 53/13 and NAV 54/INF.3 (United Kingdom), report of the Correspondence Group outlining the agreed scope of E-Navigation and the approach to developing a system architecture, presenting complementary "component" and "descriptive" models including the key issues to be addressed in a future work programme.

13.10 The Sub-Committee noted with interest the information provided by IFSMA (NAV 54/13/1) giving details of the concept of S-Mode for onboard navigation displays. This was a proposal for all shipboard navigation displays to have the ability to revert, by a single operator action, to a standardized navigation display, with standardized functionality and interface. S-Mode would supplement additional manufacturer-supplied modes. S-Mode supported the objectives of e-navigation to improve navigation decision making and hence maritime safety and protection of the marine environment.

13.11 The Sub-Committee briefly considered the proposal by China (NAV 54/13/2) to enhance the study on AIS technology and its application in maritime safety and environment management under the agenda of e-navigation strategy of the Sub-Committee, and suggesting addition of a new item to the agenda, as deemed appropriate.

13.12 The Sub-Committee noted that according to paragraph 3.9 of the Committee's Guidelines (MSC-MEPC.1/Circ.2), the Sub-Committee was unable to add a new work item to its work programme. Hence, China would have to make a formal submission to the Committee to put this proposed item on the work programme of the Sub-Committee.

13.13 The Sub-Committee noted with interest the information provided by IALA (NAV 54/13/3) on the work of IALA for developing e-navigation since the fifty-third session of the Sub-Committee.

13.14 The Sub-Committee noted with interest the information provided by Japan (NAV 54/13/4) proposing the development of road maps for implementation of the e-navigation strategy after the development of the strategy. A road map was helpful to clarify common understandings which were necessary for the implementation of e-navigation strategy. In this case, Japan had provided an example of a road map outlining the functions of collision avoidance support.

13.15 The Chairman informed the Sub-Committee that in order to facilitate progress and ensure that a strategic vision document was available for consideration by MSC 85, after consultation and in co-operation with the Coordinator of the Correspondence Group and the Chairman of the Working Group on e-navigation, he had prepared document (NAV 54/WP.2), which outlined in detail the proposed strategy for the development of e-navigation by IMO. It captured the outcome of the various discussions by the NAV and COMSAR Sub-Committees and the work of the Correspondence Group. Useful contributions had also been provided by other relevant organizations, namely IALA, IHO and others from the marine industry. The document was basically the result of the restructuring of documents NAV 54/13 and NAV 54/INF.3, which had been cross-referenced in order to emphasize that there was nothing "new", except paragraph 2.1 and a few small editorial corrections to correctly reference the various relevant IMO instruments and performance standards.

13.16 The Sub-Committee noted the information provided and agreed to instruct the Working Group on e-navigation to use the annex to NAV 54/WP.2 document as the basic foundation in developing the relevant strategic vision document.

Establishing the E-Navigation Working Group

13.17 After preliminary discussion, as reported in paragraphs 13.1 to 13.16 above, the Sub-Committee re-established the e-navigation Working Group and instructed it to consider the report of the Correspondence Group (documents NAV 54/13 and NAV 54/INF.3) submitted under agenda item 13 including the outcome of COMSAR 12 and taking into account any decisions of, and comments and proposals made in Plenary, undertake the following tasks:

.1 review in detail the note by the Chairman (NAV 54/WP.2) and using it as the basis, finalize a strategic vision document for e-navigation, so that MSC 85 can develop the necessary policy direction for further progress of this important work;

.2 review the draft strategy implementation framework, as outlined in document NAV 54/WP.2, section 11 and provide comments and guidance as to the future schedule for implementation of the proposed e-navigation strategy including the envisaged time frame;

.3 take into account the role of the human element guidance as updated at MSC 75 (MSC 75/24, paragraph 15.7) including the Human Element Analysing Process (HEAP) given in MSC/Circ.878-MEPC/Circ.346 in all aspects of the items considered; and

.4 submit a report to Plenary on Thursday, 3 July 2008 for consideration at Plenary.

Report of the E-Navigation Working Group

13.18 Having received and considered the e-navigation Working Group's report (NAV 54/WP.6), the Sub-Committee (with reference to paragraphs 3.1 to 3.7, and annexes 1 and 2), took action as summarized hereunder.

Strategy

13.19 The Sub-Committee reviewed the proposed strategy for the development and implementation of e-navigation by IMO (NAV 54/WP.2) prepared by the Chairman of the Sub-Committee in consultation with and in co-operation with the Coordinator of the Correspondence Group and the Chairman of the Working Group on e-navigation along with documents NAV 54/13 and NAV 54/INF.3.

13.20 After a detailed consideration, the Sub-Committee finalized the draft strategy for the development and implementation of e-navigation with amendments as set out in annex 12. The Committee is invited to approve it.

Implementation framework

13.21 The Sub-Committee also reviewed the draft strategy implementation framework as outlined in section 11 of document NAV 54/WP.2. In this context, the Sub-Committee recognized that due to the broad nature of e-navigation, participation of various international organizations was necessary. Accordingly, after the user needs for e-navigation have been developed and agreed, the Organization should actively seek and request the support of other international organizations to effectively implement the e-navigation strategy. After an in-depth discussion, the Sub-Committee agreed to a draft framework for the implementation process for the e-navigation strategy along with a time frame for implementation of the proposed e-navigation strategy as set out in annex 13. The Committee is invited to approve it, and to request other international organizations to participate in the implementation of e-navigation.

Work programme

13.22 In light of the foregoing, the Sub-Committee further agreed that, subject to the Committee's approval of the e-navigation strategy, it would be necessary to have a corresponding item on the Sub-Committee's work programme to implement it. Accordingly, the Sub-Committee invited the Committee to amend the title of this work programme item as "Development of an e-navigation strategy implementation plan" with four sessions to complete the work.

13.23 Furthermore, the Sub-Committee also agreed that there was a need for a coordinated approach leading to the development of an e-navigation strategy implementation plan by the COMSAR, NAV and STW Sub-Committees and that the NAV Sub-Committee should be the coordinator. In this context, the Chairman expressed the view that the Chairmen along with the Secretaries of the COMSAR, NAV and STW Sub-Committees should jointly develop a coordinated approach to implement the proposed e-navigation strategy for the consideration of the Committee. Accordingly, the Sub-Committee agreed to invite the Committee to also include the proposed amended work programme item on the work programme of both the COMSAR and STW Sub-Committees for a coordinated approach and also to designate the NAV Sub-Committee as the coordinator.

13.24 The delegation of South Africa, supported by others, expressed the opinion that the Sub-Committee should monitor the progress of ENC coverage worldwide. Accordingly, the Sub-Committee invited IHO to report to each session of the NAV Sub-Committee on the progress made in worldwide ENC coverage. In this context, the observer from IHO confirmed that it would update the Sub-Committee on an annual basis accordingly.

Regional marine electronic highway in the East Asian seas

13.25 The Sub-Committee recalled that at previous sessions, the Secretariat had updated the Sub-Committee on the key elements and expected outputs of the new project for the Development of a Regional Marine Electronic Highway (MEH) in the East Asian Seas including the progress made.

13.26 The Sub-Committee noted that the GEF/IBRD/IMO Marine Electronic Highway (MEH) Demonstration Project is on its second year of implementation and held its Second Project Steering Committee (PSC) Meeting in Kuala Lumpur, Malaysia from 3 to 5 June 2008. The Project was carrying out its planned activities for 2008, which would spill over into 2009, taking into account the decisions of the Second PSC Meeting. The activities were the hydrographic survey, the Environment Marine Information Overlays (E-MIOs) tendering and development of the information technology (IT) structure of the MEH system. In light of current budget constraints, the Project would carry out a hydrographic survey of a 621-square km area around One Fathom Bank and Tanjung Piai in the Traffic Separation Scheme of the Straits of Malacca and Singapore. The PSC Meeting requested the littoral States to expedite the issuance of permits and clearances to enable the contractor (GEMS) to start survey in September 2008. The draft contract was presently under negotiation. The E-MIOs tender document was circulated to several interested companies in February 2008. During the Second PSC Meeting, it was decided to revise the Scope of Services (SOS) to take into consideration, the requirement of the shipping sector as well as for environmental protection and management. In this case, the SOS would have both static and dynamic E-MIOs and the revised request for proposal (RFP) document would be re-tendered. In addition, the Technical Committee on Environment Systems and Information had been convened to review the E-MIOs activity. The draft Information Technology (IT) architecture of the MEH systems was considered by the PSC Meeting and littoral States have provided information on their respective maritime safety facilities. Based on the decision of the PSC, the Project was now initiating the development of a public website for the Project, which should be in operation before the end of 2008.

14 DEVELOPMENT OF CARRIAGE REQUIREMENTS FOR ECDIS

14.1 The Sub-Committee recalled that, at NAV 51, the delegation of Norway, as coordinator of the Correspondence Group (NAV 51/6), had emphasized in particular the opinion of the Group that there was a sound basis to implement a phased carriage requirement for ECDIS for certain types of ships. A phase-in programme for the carriage of ECDIS would provide certainty and clear direction to mariners, data distributors, equipment manufacturers and Hydrographic Offices. These measures would also accelerate the use and support of ECDIS which would benefit mariners and at the same time contribute to increasing the rates of ENC production.

14.2 The Sub-Committee also recalled that NAV 52 and NAV 53 considered the matter in detail and had intensive debates essentially on the need and timing for ECDIS carriage requirements *vis-à-vis* the availability of the global ENC coverage. The Chairman, in summing up the debate at NAV 53, had stated that there had been a good intensive discussion. There had been a lot of arguments, both in favour and against the proposals for a mandatory carriage

requirement for ECDIS. On the one hand, there was support, at least "in principle" for the introduction of a carriage requirement, either on the basis of the proposal by Denmark, Finland, Norway and Sweden, or on the basis of the proposal by Japan. On the other hand, concerns and questions had been raised on the necessity, the feasibility and the cost-effectiveness of such carriage requirements, on the uncertainties of global ENC-coverage and related shortcomings in the content of ENCs, on the position of developing countries, small island developing States and Least Developed Countries and on the human element and training aspects and related issues. The positive aspect of this discussion was that it had provided the Sub-Committee with a clearer picture of the pros and cons of a carriage requirement, and this clearer picture might offer a good basis for the submission of proposals on the issue for NAV 54. In concluding, he had invited Members and observers to consider taking the following action:

.1 the Russian Federation to provide further information on their research to NAV 54;

.2 IHO to provide further updates on ENC-coverage and related issues to NAV 54; and

.3 Member States as well as observers to submit any inputs of value to enable the Sub-Committee to further consider the matter and take a professional, well-informed and balanced decision at NAV 54.

Member Governments were invited to submit suitable proposals for further consideration at NAV 54.

14.3 The Sub-Committee further recalled that MSC 83 had noted with appreciation the information provided by Indonesia and Singapore (MSC 83/27/7) on a regional initiative between Indonesia and Singapore to enhance the safety of high-speed craft passenger ferry services. The joint initiative produced quality assured official Electronic Navigational Charts (ENCs), followed by ECDIS sea trials covering ferry routes and terminals in the Riau Islands in Indonesia and Singapore. MSC 83 had further referred document MSC 83/27/7 to the Sub-Committee for information during its consideration of the agenda item on "Development of carriage requirements for ECDIS" at NAV 54.

14.4 The Sub-Committee considered document NAV 54/14 (Norway) providing a follow-up study on ECDIS and ENC Coverage and confirming Norway's position on the application of carriage requirements for ECDIS.

14.5 The Sub-Committee also considered document NAV 54/14/1 (ICS) supporting the development of a SOLAS carriage requirement for ECDIS in designated ships and providing proposals for definitions upon which the final decision could be based.

14.6 The Sub-Committee further considered document NAV 54/14/2 (United Kingdom) outlining amendments to regulation 19 of SOLAS chapter V to implement a carriage requirement for Electronic Chart Display and Information Systems (ECDIS) and document NAV 54/14/3 and Corr.1. (Australia) commenting on and supporting the proposal by the United Kingdom to amend regulation 19 of SOLAS chapter V to implement a carriage requirement for Electronic Chart Display and Information Systems (ECDIS), and proposing a Safety of Navigation circular on the topic of transitioning from paper chart to ECDIS navigation.

14.7 The Sub-Committee also considered the views of Liberia, the Marshall Islands and Vanuatu as outlined in document NAV 54/14/7, providing additional information relating to mandatory carriage requirements for ECDIS. The co-sponsors fully supported the important advantages of electronic navigation and agreed that ECDIS provided an important contribution to safety of navigation and environmental protection. However, upon further review the co-sponsors were of the opinion that questions relating to ENCs and other issues needed to be addressed before deciding a date for mandatory application to ensure the successful implementation and effective use of ECDIS. The co-sponsors believed that the factors like ENC availability and coverage, ENC costs, vector chart quality and data supply logistics should be taken into account before deciding to mandate carriage of ECDIS. Finally, the co-sponsors were of the opinion that it was premature to adopt mandatory carriage of ECDIS at this time, in view of the many unresolved issues relating to the system and infrastructure essential to its viable implementation.

14.8 The Sub-Committee took also into account document NAV 54/14/4 (BIMCO and OCIMF) providing their considerations on implementing a mandatory carriage requirement for ECDIS considering ENC-coverage.

14.9 The Sub-Committee noted with interest the updated information provided by the IHO on the availability of ENCs and on the development of the IHO online catalogue of available official charts in documents NAV 54/14/5 and NAV 54/14/6.

14.10 There was an extensive debate on the development of carriage requirements for ECDIS. A large majority of those who spoke on the issue were supporting, in principle, a mandatory carriage requirement for ECDIS. A majority of those supported the United Kingdom proposal (NAV 54/14/2, annex), in particular, the time line for the introduction of a carriage requirement, while many delegations also referred to the Norwegian proposal (NAV 54/14, annex) with regard to ship types and sizes.

14.11 A large majority supported the need for flexibility requested by the industry observers, in particular regarding an exemption for ships likely to be taken out of service.

14.12 A majority also supported the Australian proposal (NAV 54/14/3, annex) to finalize a draft SN circular on Guidance on transitioning from paper chart to ECDIS navigation for adoption by the Committee.

14.13 The delegation of South Africa, referring to the poor state of hydrographic capabilities of developing countries and Small Island Developing States (SIDs) and, in particular, the absence of ENC coverage, drew the attention of the Sub-Committee to resolution A.998(25) on Need for capacity-building for the development and implementation of new, and amendments to existing instruments, and supported by several delegations, voiced their expectation that challenges of developing countries when introducing mandatory carriage of ECDIS would be taken into account in compliance with resolution A.998(25).

14.14 The observer from IHO clarified that his organization was actively involved in capacity building by conducting various seminars, workshops including training. There were a total of 14 regional hydrographic commissions all over the world providing assistance. The IHO observer further advised that developing countries and Small Island Developing States in need should contact their respective regional hydrographic commission or the IHO directly for requests relating to technical assistance.

14.15 The delegation of Ireland supported by some other delegations brought to the attention of the Sub-Committee the fact that ships' crew needed to be aware that an Electronic Chart System was not ECDIS compliant and should not be used for navigation purposes. The Irish delegation believed that the development of ECDIS carriage requirements would increase the safety of navigation and increase the protection of the marine environment as it would remove non-approved systems and provide the mariners with approved systems to work with.

14.16 The delegation of France, supported by the delegation of the United States confirmed that they had been providing technical assistance for capacity-building to coastal States and developing countries and would continue to do so.

14.17 The delegation of Panama supported by the Marshall Islands expressed concern regarding training needs of both new and existing personnel with respect to the implementation of a mandatory ECDIS carriage requirement. The delegations pointed out that any decision on a mandatory carriage requirement should take this factor into account.

14.18 The Sub-Committee noted that compliance with the provisions of resolution A.998(25) would have to be ensured by the Committee as a response to hydrographic capability challenges confronting developing countries and SIDs in relation to ENC coverage. The Sub-Committee further agreed to continuously monitor progress on ENC coverage in developing countries and SIDs in the build-up to compulsory carriage of ECDIS.

14.19 The observer from ICS reminded the Sub-Committee that ICS had provided a definition for "sufficient ENC provision" in document (NAV 54/14/1) and that the representative of IHO had agreed that the definition was very similar to their own. The Sub-Committee noted the assurance from IHO on ENC availability and decided that the definition of sufficiency as provided by ICS would be met by the dates being considered for the mandatory carriage requirement.

Proposed amendments to SOLAS regulation V/19

14.20 The Sub-Committee further considered in detail the United Kingdom proposal (NAV 54/14/2, annex), taking into account documents NAV 54/14 (Norway) and NAV 54/14/1 (ICS), and agreed, in principle, on a draft text incorporating the various agreed amendments with respect to ship size/type and the relevant time frames, with respect to the proposed mandatory carriage requirement for ECDIS equipment. The Sub-Committee also agreed on an exemption for ships that would be taken out of service within two years.

14.21 In addition, the Sub-Committee also recognized that consequential amendments would be necessary to existing regulations V/19.2.1.4 and V/19.2.1.5, taking into account the existing chapeau of paragraph V/19.2.1.

Draft SN circular on Guidance on transitioning from paper chart to ECDIS navigation

14.22 The Sub-Committee also agreed with the Australian proposal (NAV 54/14/3, annex) to finalize a draft SN circular on Guidance on transitioning from paper chart to ECDIS navigation, which would be of benefit whenever ships are first equipped with ECDIS.

Establishing Drafting Group

14.23 Having considered the issue in detail the Sub-Committee established a Drafting Group with the following terms of reference.

The Drafting Group should, taking into account any decisions of, and comments and proposals made in Plenary, undertake the following tasks:

.1 consider the annex of document NAV 54/14/2, as amended by Plenary, and, taking into account the framework for the consideration of ergonomics and the working environment in order to reduce the incidents of personal injuries and human errors (MSC-MEPC.7/Circ.3), review the draft proposed amendments to regulation V/19 relating to carriage requirements for shipborne navigation systems and equipment with respect to mandatory carriage requirement for ECDIS and prepare a clean revised draft text, including amendments to the existing regulations V/19.2.1.4 and V/19.2.1.5, taking into account the existing chapeau of paragraph V/19.2.1;

.2 review and finalize the draft SN/Circular on Guidance on transitioning from paper chart to ECDIS navigation (NAV 54/14/3, annex);

.3 take into account the role of the human element guidance as updated at MSC 75 (MSC 75/24, paragraph 15.7) including the Human Element Analysing Process (HEAP) given in MSC/Circ.878-MEPC/Circ.346 in all aspects of the items considered; and

.4 submit a report to Plenary on Thursday, 3 July 2008 for consideration at Plenary.

Report of the Drafting Group

14.24 Having received and considered the Drafting Group's report (NAV 54/WP.8), the Sub-Committee (with reference to paragraphs 3 and 4 and annexes 1 to 3) took action as summarized hereunder.

Draft proposed amendments to SOLAS regulation V/19

14.25 The Sub-Committee reviewed the proposed amendments to regulation V/19 relating to carriage requirements for shipborne navigation systems and equipment with respect to mandatory carriage requirement for ECDIS, as detailed in the annex to document NAV 50/14/2 (United Kingdom).

14.26 In considering the issue of whether the carriage requirements should apply to newly constructed cargo ships, other than tankers, of 3,000 gross tonnage or 10,000 gross tonnage, the Sub-Committee agreed that the proposed subparagraph should be split into two separate subparagraphs with different dates of implementation, the first for cargo ships, other than tankers, of over 10,000 gross tonnage; and the second for cargo ships, other than tankers, of over 3,000 gross tonnage but below 10,000 gross tonnage.

14.27 The Russian Federation recommended that the Sub-Committee should recalculate the Formal Safety Assessment before finalizing the details. The Sub-Committee decided not to recalculate the Formal Safety Assessment. The delegation of Norway stated that an FSA study

was both time and money consuming and when Members were committed to carry out such studies, there should be a commitment the other way around as well, which was to use the outcome of the studies, unless of course the study itself was questioned.

14.28 In considering the issue of the exemption of ships to be taken out of service permanently, the Sub-Committee noted the concerns expressed by France that the wording "within two years after the implementation date specified" in relation to the aforementioned implementation date being "not later than the first safety equipment survey on or after [given date]" was ambiguous, given that the safety equipment survey could be up to a year after the given date. It was further noted that this could effectively extend the exemption to nearly three years. The Sub-Committee recognized that this wording was identical to that used in relation to other provisions in regulation V/19 (for example regulation V/19.2.4.4 on AIS) and hence needed not to be revised.

14.29 The Sub-Committee agreed that the proposed new regulation should be incorporated into regulation V/19 as paragraphs 2.10 and 2.11.

14.30 The Sub-Committee further agreed on an amendment of existing regulation V/19.2.1.4 to reflect that ECDIS is an acceptable alternative to paper nautical charts and nautical publications, yet retaining the proviso that in a number of cases (for example ships not on international voyages, ships exempt from the carriage requirements because they were to be taken out of service permanently and cargo ships on international voyages but below the agreed tonnage limit) it could be appropriate to use only paper nautical charts and nautical publications. The Sub-Committee further agreed that no amendment to regulation V/19.2.1.5 was necessary.

14.31 The Sub-Committee invited the Committee to approve the draft proposed amendments to SOLAS regulation V/19 as set out in annex 14, with a view to adoption at its eighty-sixth session.

Draft SN/Circular on Guidance on transitioning from paper chart to ECDIS navigation

14.32 In considering the annex to document NAV 54/14/3 (Australia), containing the proposed guidance and information to assist those involved with the transition from paper chart to ECDIS navigation, the Sub-Committee agreed that references to existing SN/Circulars should also be included in such guidance.

14.33 The delegation of the United Kingdom supported the draft SN circular guiding the transition to ECDIS. For a change as significant as this one, both within the ship operating company and on board ships of its fleet, the United Kingdom expected that the safety management system implemented ashore and afloat would be modified. Modifications would, in particular, address the transition, training, and competence of all involved – the installation, testing, maintenance and operation of ECDIS.

14.34 The Sub-Committee endorsed the draft SN circular on Transitioning from paper chart to electronic chart display and information systems (ECDIS) navigation, as set out in annex 15, for approval by the Committee.

14.35 The Committee was invited to delete the item "Development of carriage requirements for ECDIS" from the Sub-Committee's work programme, as the work on this item had been completed.

15 GUIDELINES FOR UNIFORM OPERATING LIMITATIONS OF HIGH-SPEED CRAFT

15.1 The Sub-Committee recalled that MSC 81 (MSC 81/25, paragraph 23.45), endorsing a proposal by DE 49, decided to include, in the DE 50's work programme and the provisional agenda, a high priority item on "Guidelines for uniform operating limitations of high-speed craft", with a target completion date of 2009, and also in the work programmes of the COMSAR, NAV and SLF Sub-Committees and the provisional agendas for COMSAR 11, NAV 53 and SLF 50, with a target completion date of 2008.

15.2 The Sub-Committee noted that DE 50 had considered document DE 50/18 (China) and also revisited documents DE 49/5/3 and DE 49/INF.5 (RINA), proposing the development of an MSC circular to guide Administrations in determining the operating limitations in a consistent manner; and providing additional background information in relation to the setting of operating limitations for high-speed craft.

15.3 The Sub-Committee also noted that DE 50 had agreed that it needed further thorough consideration, since it was referring to one aspect of operating limitations for high-speed craft only, namely speed, and that many more limitations, including, *inter alia*, wash waves, wind force, temperature, following seas, etc., needed to be identified and considered. DE 50 had also agreed to establish a Correspondence Group on Uniform Operating Limitations of High-Speed Craft, under the co-ordination of Australia, which would submit a report to DE 51.

15.4 The Sub-Committee recalled that NAV 53 had considered document NAV 53/15 (RINA), identifying various subjects, i.e. safe handling situations, wave height limitations, discretionary aspects, wash wave restrictions, navigational safety and departure sea conditions for discussion in relation to determination of operational limitations of high-speed craft. There was general support for the proposals outlined and some Members were of the opinion that some consideration should be given to operations in ice-conditions, training in accordance with the 2000 HSC Code, and consistent application of operating limitations. The Sub-Committee had also requested Members to provide, in the meanwhile, relevant input on the navigational aspects directly to the DE 50 Correspondence Group on Uniform Operating Limitations of High-Speed Craft.

15.5 The Sub-Committee recalled also that NAV 53, observing that no other substantial documents had been submitted on this issue, had agreed to postpone further consideration of this item to NAV 54, when the outcome of DE 51 on this issue would also be available. Members were invited to submit suitable proposals for consideration at NAV 54.

15.6 The Sub-Committee noted that DE 51 had considered the report of the correspondence group (document DE 51/13), which had included in its draft text of the guidelines possible guidance relating to matters under the purview of other sub-committees. In particular, it left the text of section 7 (Navigational matters) of the draft within square brackets pending consideration of that text by NAV 54.

15.7 The Sub-Committee considered document NAV 54/15 (Secretariat) containing section 7 of the draft Guidelines for uniform operating limitations of high-speed craft relating to navigational matters.

15.8 The Sub-Committee was of the opinion that the draft text of the guidelines prepared by the DE Correspondence Group appeared to be adequate with respect to navigational matters. However with respect to paragraphs 7.1 and 7.4, the Sub-Committee agreed to the following amended text:

> "7.1 Casualties to high-speed craft have illustrated that there are number of navigational circumstances that need to be taken into account when establishing the operating limitations under the Permit to Operate. These include:
>
> .1 adequacy of fixed ~~navigation~~ aids to navigation on the route;
>
> .2 night-vision with regard to unlit obstacles; and
>
> .3 other restricted visibility.
>
> 7.4 Where a route is considered to be especially vulnerable to grounding or stranding, Administrations may require a risk assessment of these hazards, considering the applicability of, for example:
>
> .1 minimum safety margins around particular hazards on the route;
>
> .2 reduced speed during ~~in~~ critical sections of ~~a passage~~ the route; and
>
> .3 requiring two navigators in the operating compartment during critical sections of the route."

15.9 The Secretariat was instructed to convey this outcome to the DE Sub-Committee.

15.10 The Committee was consequently invited to delete the item "Guidelines for uniform operating limitations of high-speed craft", from the Sub-Committee's work programme, as the work on this item had been completed.

16 GUIDELINES ON THE LAYOUT AND ERGONOMIC DESIGN OF SAFETY CENTRES ON PASSENGER SHIPS

16.1 The Sub-Committee recalled that MSC 81 had reviewed the report of the Working Group on Passenger Ship Safety (MSC 81/WP.6) and agreed with the group's recommendation that the Sub-Committee should be instructed to develop guidelines on the layout and ergonomic design of safety centres (or modify MSC/Circ.982), bearing in mind that draft regulation II-2/23.4 specified that the layout and ergonomic design should take into account the guidelines developed by the Organization.

16.2 The Sub-Committee also recalled that MSC 81, having recalled that following consideration of the report of the Working Group on Passenger Ship Safety, had agreed to assign a task to the Sub-Committee related to the above matter, decided to include, in the Sub-Committee's work programme and the provisional agenda for NAV 53, a high-priority item on "Guidelines on the layout and ergonomic design of safety centres on passenger ships", with a target completion date of 2008.

16.3 The Sub-Committee further recalled in this context that, at MSC 82 (MSC 82/24, paragraph 3.104.1), the expanded Committee had adopted the amendments unanimously by resolution MSC.216(82) amendments to chapter II-2, Construction – Fire Protection, Fire Detection and Fire Extinction, with an entry into force on 1 July 2010.

16.4 The Sub-Committee also recalled that NAV 53 had considered regulations II-2/3 and II-2/23 relating to safety centre on passenger ships in the context of development of Guidelines on the layout and ergonomic design of safety centres on passenger ships. The observer from CLIA had advised that some CLIA members were designing new ships based on the concept of the safety centre and further indicated that it would submit a paper on the issue for consideration by NAV 54.

16.5 The Sub-Committee further recalled that NAV 53 had agreed that, since no other substantial documents had been submitted on this issue to that session, the matter should be postponed for further consideration at NAV 54. Members had been invited to submit suitable proposals for consideration at NAV 54.

16.6 The Sub-Committee noted that FP 52 had considered the issue of clarification of SOLAS requirements regarding interrelation between central control station and safety centre. FP 52 had noted that its working group on this item, in discussing document FP 52/14 (Argentina), referring to the interrelation between central control station and safety centre, had agreed that the content of the aforementioned document was a valuable starting point for discussing the issue, but a number of aspects still needed to be investigated in detail, in particular:

.1 whether SOLAS chapter II-2 should be revised as far as the requirements for continuously manned control stations are concerned and in relation to the presence of safety centre. In this context, it was also pointed out that the safety centre may not be normally manned;

.2 verification of the existing requirements for power supply of systems listed in SOLAS regulation II-2/23.6 towards the proposal set out in paragraph 2.1 of the annex to document FP 52/14; and

.3 human factor related to the management of response from different centres of authority.

Taking into account the above aspects, the FP 52 had established a correspondence group, under the coordination of CLIA and instructed it to prepare a draft unified interpretation for consideration by the Sub-Committee.

16.7 The Sub-Committee noted that the observer from CLIA was not present and therefore unable to provide additional information at this time.

16.8 The Sub-Committee agreed that, since no other substantial documents had been submitted on this issue to this session, the matter should be postponed for further consideration at NAV 55. Members were invited to submit suitable proposals for further consideration at NAV 55.

16.9 Accordingly, the Committee was invited to extend the target completion date of this agenda item to 2009 (paragraph 22.5.2 refers).

17 REVIEW OF VAGUE EXPRESSIONS IN SOLAS REGULATION V/22

17.1 The Sub-Committee recalled that MSC 82 had considered a proposal by Germany (MSC 82/21/11) to develop, in view of some cases of stowage of containers above the line of visibility, a clarification of SOLAS regulation V/22 (Navigation bridge visibility) or revision of the regulation, to ensure safe navigation and to avoid ship detentions, and agreed to include, in the Sub-Committee's work programme, a high priority item on "Review of vague expressions in SOLAS regulation V/22", with two sessions needed to complete the item.

17.2 The Sub-Committee also recalled that in this respect, MSC 82 had noted a view that rather than developing amendments to the SOLAS Convention, guidance on the implementation of regulation V/22 might be prepared and agreed that it should be left to the Sub-Committee to decide on the course of action to be taken when addressing the issue.

17.3 The Sub-Committee considered document MSC 82/21/11 (Germany) outlining the experience made with stowage of containers above the line of visibility which might present a danger to collision avoidance and the safe operation of a ship. Shipyards and owners had tried to increase the carrying capacity of container vessels by continuously stowing on deck additional containers beyond the line of visibility. Container stowage positions above the visibility line should only be temporarily used in some rare cases for single over height containers or flats with non-standardized over height cargo. Even MSC/Circ.982 recommended, under 5.1.1.1.1, that the view of the sea surface from the navigating and manoeuvring workstation should fulfil the requirements of SOLAS regulation V/22. Such cargo stowage might be deemed to be in conflict with the intention of SOLAS regulation V/22 and did not conform to the applicable aims of SOLAS regulation V/15. This eventually might cause a vessel to be claimed as legally "not seaworthy" or be detained by a port State control. Therefore, a clarification of the requirements was indispensable and if the Sub-Committee deemed it necessary, a revision of the relevant SOLAS regulation V/22 should be considered and prepared.

17.4 The Sub-Committee also considered document NAV 54/17 (Denmark and Singapore) proposing an amendment of SOLAS regulation V/22, which enabled ships to verify compliance with SOLAS V/22, when loading deck cargo.

17.5 There was a brief general discussion on the issue. Delegations who spoke were, in general, supportive of the idea of an amendment to SOLAS regulation V/22. However, concerns were raised as to the scope of application to different types of ships, applicability to existing ships, the potential need for new equipment, and the need for flexibility in the application of the proposed draft amendment.

17.6 The Sub-Committee agreed that it was premature to take any decision at present and that more detailed consideration was necessary prior to finalization.

17.7 Member Governments were invited to submit suitable proposals, taking into account the above concerns raised in Plenary, for further consideration at NAV 55.

18 REVISION OF THE GUIDANCE ON THE APPLICATION OF AIS BINARY MESSAGES

18.1 The Sub-Committee recalled that MSC 82 (MSC 82/24, paragraph 21.41) following consideration of document MSC 82/21/13 (Sweden) proposing to review the Guidance on the application of AIS binary messages (SN/Circ.236) on the basis of operational needs and experience gained and taking into account existing technical limitations, to facilitate an effective and appropriate use of AIS binary messages and protect the main function of AIS, agreed to include, in the NAV Sub-Committee's work programme, a high-priority item on "Revision of the Guidance on the application of AIS binary messages", with two sessions needed to complete the item.

18.2 The Sub-Committee recalled also that NAV 53 had noted with interest the information provided by Germany and Sweden (NAV 53/INF.11), describing the technical limitations for the use of AIS binary messages and presenting the results of a study of the existing usage of the AIS VHF Data Link including further work needed to develop guidelines for the use of AIS binary messages.

18.3 The Sub-Committee considered document NAV 54/18 (Japan) proposing the modification of a Trial Set of Binary Messages, adopted at NAV 49 and the addition of New Binary Messages.

18.4 The Sub-Committee also considered document NAV 54/18/1 (Sweden) providing reasoning for a revision of SN/Circ.236 and the setting up of a Correspondence Group with the task to review and amend SN/Circ.236 Guidance on the application of AIS binary messages. Sweden was of the view that the new document should include an updated list of recommended AIS binary messages and guidance for their application and also guidance for the application of regionally/nationally developed AIS binary messages.

18.5 The Sub-Committee further considered document NAV 54/18/2 (Japan) proposing the inclusion of new messages for Collision Avoidance in AIS binary messages.

18.6 There was broad, unanimous support for the proposals of Sweden and Japan. The delegation of Germany supported by others was of the view that the revision should include the graphical presentation of AIS binary messages on a reliable basis.

18.7 With respect to document NAV 54/18/2 (Japan), the delegation of Peru supported by some other delegations urged caution with respect to the use of AIS binary messages for collision avoidance. Ships needed to be fully aware of the complete traffic situation around one's own ship instead of concentrating on one particular ship. The Sub-Committee agreed with this observation.

18.8 After some discussion, the Sub-Committee agreed to establish an intersessional Correspondence Group under the coordination of Sweden* to make progress on the issue and report to NAV 55. The Sub-Committee further approved the following Terms of Reference.

18.9 The Correspondence Group should consider documents NAV 54/18 (Japan), NAV 54/18/1 (Sweden) and NAV 54/18/2 (Japan) including comments and decisions made in Plenary and evaluate the use of binary messages in the trial period, as identified in SN/Circ.236, and select and propose a revised set of AIS binary messages for international use. The Correspondence Group should in the selection of messages consider:

.1 the operational need;

.2 other/existing methods to fulfil the need;

.3 user interface on board, both for presentation and input of information;

.4 the technical limitations; and

.5 graphical presentation of AIS binary messages.

The Correspondence Group should develop guidance for the use of AIS binary messages to ensure that the main functions of AIS were not impaired due to overloading of the VDL. In developing the guidance, consideration should be given to the use of binary messages defined by IMO as well as binary messages developed regionally. The Correspondence Group should further evaluate the need for additional means of communication, given the increasing demand for digital communication between shore and ships.

The Baltic AIS trial (AISBALTIC) project

18.10 The Sub-Committee noted with interest the information provided by Finland and Estonia (NAV 54/INF.8) on the activities undertaken, preliminary results and future actions of the Baltic AIS trial (AISBALTIC) project. The aim of the project was to enhance the use of Automatic Identification System (AIS) binary messages.

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Information about ongoing work on the application of binary messages

18.11 The Sub-Committee noted with interest the information provided by the United States (NAV 54/INF.9) on the ongoing work in the form of studies and trials being conducted on the current and potential benefits of AIS binary applications and providing the opportunity for members to contribute to the process.

19 IMPROVED SAFETY OF PILOT TRANSFER ARRANGEMENTS

19.1 The Sub-Committee recalled that MSC 82 (MSC 82/24, paragraph 21.34) had considered document MSC 82/21/17 in which Brazil, the United States and IMPA, being concerned over continued pilots' loss of life or serious injury suffered by pilots in the course of transferring to ships, had proposed that amendments to SOLAS regulation V/23 and resolution A.889(21) on Pilot transfer arrangements should be developed to improve the safety of pilot transfer operation using ladders and had agreed to include, in the work programmes of the NAV and DE Sub-Committees, a high-priority item on "Improved safety of pilot transfer arrangements", with two sessions needed to complete the item and assigned the NAV Sub-Committee as a coordinator.

19.2 The Sub-Committee noted with interest the information provided by IMPA (NAV 54/INF.4) reporting on the results of a safety campaign carried out for 1 week in 2007 by Pilots around the world, into the standard of ladders and ancillary boarding equipment provided for their use under SOLAS.

19.3 The Sub-Committee considered document MSC 82/21/17 (Brazil, the United States and IMPA) outlining the fact that despite ever increasing safety efforts, pilots continued to lose their lives or suffer serious injury in the course of transferring to ships from pilot launches and cutters, using ladders. Amendments to SOLAS regulation V/23 and/or resolution A.889(21) were also suggested to improve the safety of pilot transfer operations using ladders.

19.4 The Sub-Committee noted that the proposed amendments to SOLAS regulation V/23 and resolution A.889(21) were as follows:

Regulation V/23

Pilot transfer arrangements

.1 securing the pilot accommodation ladder to the ship's side (new amendment);

.2 mechanical pilot hoists (delete existing paragraph 6);

.3 prohibition of outward opening shipside doors used for pilot transfer (delete existing paragraph 5);

.4 diameter of man ropes (amend existing paragraph 7.1.1); and

.5 rigging and use of man-ropes (new amendment).

Resolution A.889(21) on Pilot transfer arrangements

.1 vertical space between steps (amend existing paragraph 2.1.2.6);

.2 installation of step fixtures (new amendment);

.3 maximum angle of slope (amend existing paragraph 3.2);

.4 height of the lower platform (new amendment);

.5 width of the accommodation ladder (new amendment);

.6 adjusting the distance between the pilot ladder and the lower platform (new amendment);

.7 distance between handholds (amend existing paragraph 5.2); and

.8 width of the gap in the rubbing band (new amendment).

19.5 There was general support for the proposed amendments. The Sub-Committee was also of the opinion that due to the fact that there was no time to consider and develop the complete text of the proposed amendments for approval during this session, there was a need for experts to take a detailed look at the amendments and prepare draft texts the Sub-Committee could consider.

19.6 Accordingly, the Sub-Committee agreed to the establishment of a correspondence group under the coordination of the United States* and approved the following terms of reference.

19.7 The Correspondence Group should consider document MSC 82/21/17 outlining the proposed amendments to the existing regulation V/23 and resolution A.889(21) on pilot transfer arrangements as well as any other relevant information and taking into account the urgency of the matter, develop draft texts and a final report for consideration and review by the Sub-Committee at its fifty-fifth session (NAV 55) as well as a comprehensive interim report to DE 52 to progress the matter.

20 CASUALTY ANALYSIS

20.1 The Sub-Committee recalled that MSC 78 (MSC 78/26, paragraph 24.8) had decided that the item on "Casualty analysis" should remain on the work programme of the sub-committees.

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20.2 The Sub-Committee noted that, at this session, no documents had been either submitted for consideration or referred to it by either the FSI Sub-Committee or any other technical body of the Organization for review, and consequently agreed to defer further consideration of the item to NAV 55.

21 CONSIDERATION OF IACS UNIFIED INTERPRETATIONS

21.1 The Sub-Committee recalled that, in order to expedite consideration of IACS unified interpretations being submitted to the Committee on a continuous basis, MSC 78 had decided that IACS should submit them directly and as appropriate to the sub-committees concerned. To this effect, MSC 78 had agreed to retain, on a continuous basis, the item on "Consideration of IACS unified interpretations" in the work programmes of the BLG, DE, FP, FSI, NAV and SLF Sub-Committees and to include it in the agenda for their next respective sessions.

21.2 The Sub-Committee recalled also that it had considered proposals for IACS Unified Interpretations at its fifty-second and fifty-third sessions. These were subsequently approved as MSC.1/Circ.1224 on Unified interpretations of SOLAS chapter V and MSC.1/Circ.1260 on Unified Interpretations of COLREG during MSC 82 and MSC 84, respectively.

21.3 The IACS observer informed the Sub-Committee that IACS would submit relevant IACS Unified Interpretation proposals to NAV 55.

22 WORK PROGRAMME AND AGENDA FOR NAV 55

22.1 The Sub-Committee recalled that, at MSC 78, the Chairman, in addressing the Committee's method of work relating to the consideration of proposals for new work programme items, had clarified that the objective of the Committee when discussing these proposals was to decide, based upon justification provided by Member Governments in accordance with the Guidelines on the organization and method of work, whether the new item should or should not be included in the Sub-Committee's work programme. A decision to include a new item in a Sub-Committee's work programme did not mean that the Committee agreed with the technical aspects of the proposal. If it was decided to include the item in a Sub-Committee's work programme, detailed consideration of the technical aspects of the proposal and the development of appropriate requirements and recommendations should be left to the Sub-Committee concerned.

22.2 The Sub-Committee noted that MSC 83 had agreed to include, in the Sub-Committee's work programme high-priority items on:

.1 "Amendments to the Performance standards for VDR and S-VDR", with two sessions needed to complete the item; and

.2 "Development of procedures for updating shipborne navigation and communication equipment", with two sessions needed to complete the item.

22.3 The Sub-Committee also noted that MSC 84 had agreed to include, in the Sub-Committee's work programme high-priority items on:

.1 "Safety provisions applicable to tenders operating from passenger ships", with three sessions needed to complete the item; and

.2 "Guidelines for consideration of requests for safety zones larger than 500 metres around artificial islands, installations and structures in the EEZ", with two sessions needed to complete the item.

22.4 The Sub-Committee further noted that MSC 84 had also agreed to expand the existing work programme item on "Amendments to the Performance standards for VDR and S-VDR" to consider the proposal contained in document MSC 84/22/18 (Egypt), and increased the number of sessions needed to complete this work item to three sessions.

22.5 Taking into account the progress made at the current session, the decisions of MSC 83 and MSC 84 and very consciously the provisions of the agenda management procedure, the Sub-Committee prepared a proposed revised work programme and a manageable provisional agenda for NAV 55 (NAV 54/WP.3), as amended, based on those approved by MSC 84 (NAV 54/2/2, annexes 2 and 3) and set out in annex 16, for consideration and approval by the Committee. While reviewing the work programme, the Sub-Committee invited the Committee to:

.1 delete the following work programme items, as work on them had been completed:

.1.1	item H.1	Worldwide radionavigation system (WWRNS)	2008
.1.2	item H.4	Amendments to COLREG Annex I related to colour specification of lights	2008
.1.3	item H.5	Carriage requirements for a bridge alarm navigational watch alarm system	2008
.1.4	item H.7	Development of carriage requirements for ECDIS	2008
.1.5	item H.8	Guidelines for uniform operating limitations of high-speed craft	2008
.1.6	item H.10	Amendments to the General Provisions on Ships' Routeing	2008
.1.7	item H.11	Review of COLREGs regarding the right of way of vessels over pleasure craft	2008

.2 extend the target completion date of the following work programme item:

.1.1	item H.9	Guidelines on the layout and ergonomic design of safety centres on passenger ships	2009

.3 rename/extend the target completion date of the following work programme item:

.1.1	item H.6	Development of an e-navigation strategy implementation Plan	~~2008~~ 4 sessions

22.6 The Sub-Committee, being aware that amendments to SOLAS chapter V should at least be considered for inclusion in the High-Speed Craft Code where relevant, noted that the adoption of carriage requirements for BNWAS and the general amendments to SOLAS by new paragraph V/19.2.2.3, did not at this session have the opportunity to discuss the applicability of the requirements to High-Speed Craft.

Arrangements for the next session

22.7 The Sub-Committee anticipated that Working Groups on the following subjects might be established at NAV 55:

.1 Ships' Routeing;
.2 Technical matters; and
.3 E-navigation.

High-level Action Plan of the Organization and priorities for the 2008-2009 bienniums

22.8 The Sub-Committee recalled that under agenda item 2 – Decisions of other IMO Bodies, the Secretariat had provided oral information on action requested by the twenty-fourth extraordinary session of the Council relating to the High-level Action Plan of the Organization and priorities for the 2008-2009 biennium approved by A 25.

22.9 The Sub-Committee noted the information on the status of planned output of the High-level action plan relevant to the Sub-Committee, as set out in annex 17 for submission to MSC 85 for consideration and action as appropriate.

Date of the next session

22.10 The Sub-Committee noted also that the fifty-fifth session of the Sub-Committee had been tentatively scheduled to be held from 27 to 31 July 2009 at IMO Headquarters.

23 ELECTION OF CHAIRMAN AND VICE-CHAIRMAN FOR 2009

23.1 In accordance with Rule 16 of the Rules of Procedure of the Maritime Safety Committee, the Sub-Committee unanimously elected Mr. J. M. Sollosi (United States) as the new Chairman and Mr. Raja Datuk Malik (Malaysia) as the new Vice-Chairman for 2009 respectively.

23.2 The Sub-Committee expressed its appreciation to its outgoing Chairman Mr. K. Polderman (The Netherlands), for his invaluable contribution to the work of the Sub-Committee in guiding it through sometimes troubled waters over a long period of time and wished him all the best for the future.

24 ANY OTHER BUSINESS

Codes, recommendations, guidelines of non-mandatory instruments

24.1 The Sub-Committee noted that MSC 83 when considering the comprehensive list of codes, recommendations, guidelines and other safety and security related non-mandatory instruments prepared by the Secretariat (MSC 82/18/1 and MSC 82/INF.12), had referred the

detailed consideration of that list to the relevant sub-committees for the identification of those instruments which might be relevant in the context of collection of information on their implementation, also requesting them to provide an input on potential users and requirements of the data scheme to be established.

24.2 The Sub-Committee observed that MSC 83 had noted that the Secretariat was developing a module of the IMO Global Integrated Shipping Information System (GISIS) on safety- and security-related non-mandatory requirements and recommendations, on the basis of MSC/Circ.815. When completed, the module could also contain information on the status of implementation of non-mandatory instruments to be kept updated by the Member States themselves using direct recording facilities. The module could also record, on a voluntary basis, for each instrument the national legislation adopted for its implementation – including the ability to upload its full text – the application criteria and the status of the instrument with regard to amendments.

24.3 The Sub-Committee considered document NAV 54/24 (Secretariat), containing at annex the list of codes, recommendations, guidelines and other safety and security related non-mandatory instruments identified in document MSC 82/INF.12 relevant to the work of the Sub-Committee, which it had been requested to review by MSC 83.

24.4 The Sub-Committee noted the information provided by the Secretariat that it had reviewed the list on a preliminary basis. The Sub-Committee agreed to approve the list attached to document NAV 54/24 as being the current temporary list of relevant documents and to support, in general, the development of a GISIS module on non-mandatory requirements and recommendations to be kept updated by the Secretariat, and invited Member States to use the GISIS reporting facilities to enter information on the implementation of those requirements and recommendations and to upload the corresponding national legislation, as deemed appropriate.

24.5 However, in view of the length of the list attached to document NAV 54/24, containing 169 non-mandatory instruments, and the above information regarding the further development of the GISIS, the Sub-Committee agreed that there was not sufficient time to review carefully the complete list of non-mandatory instruments under its purview during this session. There was a need for experts to take a detailed look at these documents and to examine the need to revise or delete some of the documents.

24.6 The Sub-Committee therefore established an intersessional Correspondence Group on the review of the existing NAV related codes, recommendations and guidelines of non-mandatory instruments under the leadership of the United Kingdom* with the following terms of reference:

.1 review the existing NAV related codes, recommendations and guidelines of non-mandatory instruments to examine the necessity for revision or deletion;

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.2 develop proposals for revision or deletion where appropriate; and

.3 submit its report to NAV 55 for consideration.

Presentation symbol for AIS-SART

24.7 The Sub-Committee noted that COMSAR 12, in considering document COMSAR 12/14/2 (IEC), inviting it to note the progress made in the work and provide advice on the proposals for the AIS-SART, referred document COMSAR 12/14/2 to NAV 54 for consideration and follow-up action, as appropriate, with respect to the need for a presentation symbol of AIS-SART.

24.8 The Sub-Committee recalled that NAV 50 had agreed a draft SN/Circular on Guidelines for the presentation of navigation-related symbols Terms and Abbreviations; MSC 79 had concurred with the Sub-Committee's views and approved SN/Circ.243 on the afore-mentioned Guidelines and encouraged their use for all shipborne navigational systems and equipment.

24.9 The Sub-Committee recalled also that NAV 53 had requested IEC Working Group 13 to develop a presentation symbol for AIS-SART to be included in annex 1, Table 4 of SN/Circ.243 and provide a progress update to NAV 54.

24.10 The Sub-Committee considered documents NAV 54/24/1 and COMSAR 12/14/2 (IEC) and noted that IEC TC 80 was preparing standards to support the performance standards of the Organization. The Sub-Committee was invited to note the progress made and the IEC response to the Sub-Committee's requests on symbology and interfacing. The Sub-Committee was also invited to consider the need for the symbol proposed at annex for use on radar and ECDIS displays, otherwise the AIS-SART would be displayed as a triangle symbol, as given in SN/Circ.243 for an AIS target.

24.11 The delegation of the Marshall Islands with respect to paragraph 3 of document NAV 54/24/1, requested CIRM to clarify the situation regarding the availability of radar equipment complying with the new performance standard (resolution MSC.192(79)) which entered into force on 1 July 2008.

24.12 The observer from CIRM stated that the Maritime Safety Committee, at its seventy-ninth session, had adopted a new performance standard (resolution MSC.192(79)) for improving radar performance and vessel safety and had also recommended that radar equipment installed on or after 1 July 2008 conform to these new requirements. The International Electrotechnical Committee (IEC) agreed to expand these requirements into an International Standard. Compiling the IEC standard took longer than expected due to difficulties in agreeing test procedures that would ensure compliance with the requirements in the IMO resolution. This standard was termed IEC 62388 and entitled "Shipborne radar – Performance requirements – Methods of testing and required test results". This then left only a short time between the release of this highly technical and challenging standard and the carriage requirement coming into place; a considerable challenge for manufacturers to develop new equipment and to obtain Type Approval. As such on 1 July, the start of the carriage requirement, CIRM believed only two manufacturers had very recently completed Type Approval of their Radar systems to meet these new requirements. Others had successfully completed the tests and were waiting certification. Hence the availability of equipment to meet this new standard was restricted to only a few

manufacturers' products. The other manufacturers and Test Houses were however putting considerable effort into remedying this situation and within the next three months it was expected that several other manufacturers would both achieve approval and would have equipment available in volume. Additionally, there was considerable confusion over the definition of the carriage start date of 1 July 2008 based on the understanding of the word 'installed.' Interpretations of this definition varied, particularly for new build projects, from date of equipment delivery to the shipyard, keel laying date, date of class approval, date of equipment setting to work and others. For these reasons, CIRM understood that already several flag States were implementing grace periods for the installation of equipment meeting the previous radar standard for periods of up to one year. CIRM therefore would request, to avoid considerable confusion and expense to all parties involved, and to avoid the delay of radar installations, that flag States noted the present difficulties in the supply of equipment and consider taking a practical approach to radar installations on their ships.

24.13 The Sub-Committee agreed to refer document NAV 54/24/1 to the Technical Working Group for review to be established under agenda items 4, 9 and 24 B.

Report of the Technical Working Group

24.14 Having received and considered the received and considered the Technical Working Group's report (NAV 54/WP.5), the Sub-Committee (with reference to paragraph 5.1 and annex 4), took action as summarized hereunder.

24.15 The Sub-Committee agreed on the symbol as proposed by IEC in document NAV 54/24/1 (IEC) and endorsed the draft SN/Circular detailing an amendment to SN/Circ.243 on Guidelines for the presentation of navigation-related symbols, terms and abbreviations, as set out in annex 18 for approval by the Committee.

Draft safety recommendations for decked fishing vessels of less than 12 metres in length and undecked fishing vessels

24.16 The Sub-Committee noted that SLF 50 had agreed to refer the relevant consolidated text of the draft Safety recommendations for decked fishing vessels of less than 12 metres in length and undecked fishing vessels to the Sub-Committee (chapter 10 – Navigational equipment and annexes I, XXIX, XXX, XXXI and XXXII) for consideration and submission of comments and proposals to SLF 51.

24.17 The Sub-Committee noting that the Secretariat in co-operation with the Chairman had reviewed the draft text of Chapter 10 – Navigational equipment and annexes I, XXIX, XXX, XXXI and XXXII, considered the draft text and agreed that the following corrections were necessary:

Chapter 10:

Amend paragraph 10.2.2 to read as:

> "10.2.2 An Electronic Chart Display and Information System (ECDIS) or electronic chart plotter may be accepted as meeting the chart carriage requirements of 10.2.1."

Amend footnote on page 1 to read as:

"* An appropriate folio of paper nautical charts may be used as a back-up arrangement for ECDIS. Other back-up arrangements for ECDIS are acceptable (see appendix 6 to resolution A.817(19), as amended) and resolution MSC.232(82), respectively."

Amend paragraph 10.5.1 to read as:

"10.5.1 Deck lighting should not impair the visibility of navigation and signal lights required by the International Regulations for Preventing Collisions at Sea, 1972, as amended."

Annex I:

No change

Annex XXIX:

No change

Annex XXX:

This relates to Rules 22, 23, 25, 26, 27 and 35 of the COLREGs. Accordingly, replace the word "should" with the word "shall" because it is a **mandatory** requirement.

Annex XXXI:

No change

Annex XXXII:

Amend to align with resolution A.1004(25). The amendments to Annex IV Distress Signals enter into force on 1 December 2009, unless by 1 June 2008 more than one third of Contracting Parties to the Convention have notified of their objection to the amendments; corresponding diagram to be also amended.

24.18 The Secretariat was instructed to convey the outcome of the review to the SLF Sub-Committee.

New Editions of IHO Publications

24.19 The Sub-Committee noted with interest the information provided by IHO (NAV 54/INF.6) regarding the publication of Edition 5 of the IHO Standards for Hydrographic Surveys (S-44), Edition 3.4 of the Specifications for Chart Content and Display Aspects of ECDIS – Presentation Library (S-52 Appendix 2, Annex A), and Edition 1.1 of the ENC Data Protection Scheme (S-63).

International Product Specification for marine environmental protection data to be used in conjunction with Electronic Navigational Charts (ENCs)

24.20 The Sub-Committee noted with interest the information provided by the United States (NAV 54/INF.7) on the development of an International Product Specification for marine environmental protection data to be used in conjunction with Electronic Navigational Charts (ENCs) and ongoing work on this issue. Use of these data would promote maritime safety and increase protection of the marine environment.

24.21 The observer from IHO stated that as reported by the United States, the IHO had established a Working Group to develop a marine environment protection product specification to be used in conjunction with ENCs, which would enhance voyage planning and the mariners' ability to navigate safely thus avoiding damaging the marine environment.

24.22 The United Kingdom fully recognized the benefits of having marine environmental protection data available for use within electronic charting systems and fully supported this initiative to develop and promote a data standard under the auspices of the International Hydrographic Organization. There were now several different types of measures in place around the world to implement marine environmental protection measures. Mariners needed to be aware of the existence of such measures so that they could plan and execute their voyages accordingly. With increasing usage of electronic charting systems, it was entirely sensible that an international standard be available to ensure common and consistent means for depicting such measures, providing the mariner with important supplementary information. The United Kingdom urged that, while developing such a standard, it should be ensured that any system introduced did not interfere with the core functionality of the electronic charting system for safe navigation by over-cluttering the chart display.

Removal of wreck of *MV California* in the Straits of Malacca

24.23 The delegation of Malaysia informed the Sub-Committee about an incident of a collision between a bulk carrier and a container vessel in April 2006 resulting in a ship wreck that was of serious concern to the safety of navigation in the Straits of Malacca and provided an update on the progress for the removal of the bulk carrier **MV California** of 80,400 tonnes deadweight. The location of the wreck was within the southbound lane of the traffic separation scheme in the southern part of the Strait. The operation for the complete removal of the wreck was being carried out and expected to be completed in about five months time. Three ships namely, an accommodation work barge **Tropical 388**, tow vessel **APM Maria** and a monitoring and surveillance vessel named **Setia Damai** were located at the wreck site in carrying out salvage work since 9 June 2008. The working zone or the exclusion zone had been marked with four cardinal mark buoys. In order to ensure the safety of navigation in the vicinity, a navigational warning through "NAVTEX" was being promulgated at frequent intervals advising mariners to exercise extreme caution when navigating in the area. In addition, the VTS Centre at Port Klang continued to monitor the traffic situation and kept the mariners advised. Any further details could be obtained from the Director of Central Region, Marine Department Peninsular Malaysia or the website www.marine.gov.my.

Expressions of appreciation

24.24 The Sub-Committee further expressed appreciation to the following delegates who had recently relinquished their duties, retired or were transferred to other duties or were about to, for their invaluable contribution to its work and wished them a long and happy retirement or, as the case might be, every success in their new duties:

- Mr. Yoshio Sasamura (Japan) (on retirement);
- Mr. Mike Hunter (United Kingdom) (on transfer to other duties);
- Mr. Joe Collins (United Kingdom) (on retirement);
- Mr. John de Rose (IACS) (on retirement);
- Mr. Alfredo Garofalo (Secretariat) (on retirement);
- Ms Michèle Foré (Secretariat) (on retirement); and
- Mr. Christopher Simonds (Secretariat) (on retirement).

25 ACTION REQUESTED OF THE COMMITTEE

25.1 The Committee, at its eighty-fifth session, is invited to:

.1 in accordance with resolution A.858(20), adopt:

.1 the proposed new traffic separation scheme "In the approaches to the Port of Thessaloniki" (paragraph 3.26 and annex 1);

.2 the proposed three new traffic separation schemes, "North Åland Sea", and "South Åland Sea" (paragraph 3.27 and annex 1);

.3 the proposed new traffic separation scheme and associated routeing measures "In Liverpool Bay" (paragraph 3.31 and annex 1);

.4 the proposed amendments to the existing traffic separation scheme "In the approach to Boston, Massachusetts" (paragraph 3.32 and annex 1);

.5 the proposed amended traffic separation scheme "Off Land's End, between Seven Stones and Longships" (paragraph 3.33 and annex 1);

.6 the proposed amended traffic separation scheme "In the approaches to the River Humber" (paragraph 3.35 and annex 1);

.7 the proposed amended existing traffic separation scheme "At Hatter Barn" (paragraph 3.36 and annex 1);

.8 the proposed new recommendatory seasonal Area To Be Avoided "In the Great South Channel" (paragraph 3.37 and annex 2);

.9 the proposed new Area To Be Avoided and two new mandatory No Anchoring Areas in the vicinity of the proposed "Excelerate Northeast Gateway Energy Bridge Deepwater Port" (paragraph 3.38 and annex 2);

.10 the proposed new deep-water routes inside the borders of the "North Åland Sea" and "South Åland" TSS (paragraph 3.39 and annex 2);

.11 the proposed new two-way route leading to the "Åland Sea" (paragraph 3.40 and annex 2);

.12 the proposed new Area To Be Avoided (ATBA) "In Liverpool Bay" (paragraph 3.41 and annex 2);

.13 the proposed new ship reporting system for "Off the Coast of Portugal – COPREP", (paragraph 3.43 and annex 3);

.14 the proposed amendments to the existing ship reporting system for the Papahānaumokuākea Marine National Monument, "CORAL SHIPREP" (paragraph 3.44 and annex 4);

.2 approve the draft SN circular on Guidelines for the application of the modular concept to performance standards (paragraph 4.17 and annex 5);

.3 adopt the proposed amendments to the General Provisions on Ships' Routeing (Annexes 1 and 2 of resolution A.572(14), as amended), subject to confirmation by the Assembly (paragraph 5.5 and annex 6);

.4 approve the draft amendments to SOLAS regulation V/19 to reflect a new carriage requirement for a bridge navigational watch alarm system, with a view to adoption at its eighty-sixth session (paragraph 6.10 and annex 7);

.5 consider and decide on whether it was supporting the issue of satellite detection of AIS (paragraphs 9.7 to 9.13);

.6 endorse the action by the Sub-Committee in sending a liaison statement to ITU-R WP 5B, copied to IALA and CIRM concerning the issue of satellite detection of AIS (paragraph 9.15 and annex 8);

.7 approve the draft SN circular on corrigenda to SN/Circ.227 on Guidelines for the installation of a shipborne Automatic Identification System (AIS) relating to the impact of resolution MEPC.118(52) upon existing AIS shipboard installations (paragraph 9.17 and annex 9);

.8 approve the draft liaison statement to ITU, IEC and IALA informing them of the change to hazard or pollutant categories and inviting them to note this in any future revision of their documentation and authorize the Secretariat to convey it to ITU, IEC and IALA (paragraph 9.18 and annex 10);

.9 endorse the need to update the STCW model course on Automatic Identification Systems (Model Course 1.34) and the action of the Sub-Committee in instructing the Secretariat to inform the STW Sub-Committee accordingly (paragraph 9.19);

.10 endorse the outcome of the deliberations with respect to the impact of resolution MEPC.118(52) upon existing AIS shipborne installations and note that the Marine Environment Protection Committee has been informed accordingly (paragraphs 9.4 to 9.6 and 9.17 to 9.20);

.11 note that with respect to the development of a Code of conduct during demonstrations/campaigns against ships on high seas, the Sub-Committee instead agreed to the provisional draft MSC resolution on Assuring safety during demonstrations, protests, or confrontations on the high seas as work in progress and invited the FSI Sub-Committee to consider the text for advice, with the aim of finalization of the text of the draft MSC resolution at NAV 55 (paragraph 10.14 and annex 11);

.12 approve the draft strategy for the development and implementation of e-navigation (paragraph 13.20 and annex 12);

.13 approve the draft framework for the implementation process for the e-navigation strategy along with a time frame for implementation of the proposed e-navigation strategy and request other international organizations to participate in the implementation of e-navigation (paragraph 13.21 and annex 13);

.14 endorse the Sub-Committee's decision that the Chairmen along with the Secretaries of the COMSAR, NAV and STW Sub-Committees should jointly develop a coordinated approach to implement the proposed e-navigation strategy (paragraph 13.23);

.15 approve the draft amendments to SOLAS regulation V/19 to reflect a mandatory carriage requirement for ECDIS, with a view to adoption at its eighty-sixth session (paragraph 14.31 and annex 14);

.16 approve the draft SN circular on Transitioning from paper chart to electronic chart display and information systems (ECDIS) navigation (paragraph 14.34 and annex 15);

.17 approve the draft SN circular detailing an amendment to SN/Circ.243 on Guidelines for the presentation of navigational-related symbols, terms and abbreviations relating to a new symbol for the presentation of an AIS Search and Rescue Transmitter (AIS-SART) (paragraph 24.15 and annex 18); and

.18 approve the report in general.

25.2 In reviewing the work programme of the Sub-Committee, the Committee is invited to consider the revised work programme suggested by the Sub-Committee (annex 16) in general and, in particular, to:

.1 delete "Amendments to the General Provisions on Ships' Routeing", as the task has been completed (paragraph 5.6);

.2 delete "Carriage requirements for a bridge alarm navigational watch alarm system", as the task has been completed (paragraph 6.12);

.3 delete "Review of COLREGs regarding the right of way of vessels over pleasure craft", as the task has been completed (paragraph 7.10);

.4 delete "Amendments to COLREG Annex I related to colour specification of lights", as the task has been completed (paragraph 8.6);

.5 delete "Worldwide radionavigation system (WWRNS)", as the task has been completed (paragraph 12.7);

.6 delete "Development of carriage requirements for ECDIS", as the task has been completed (paragraph 14.31);

.7 delete "Guidelines for uniform operating limitations of high-speed craft", as the task has been completed (paragraph 15.10);

.8 extend the target completion date of the following work programme item, namely:

.1 "Guidelines on the layout and ergonomic design of safety centres on passenger ships" with a target completion date of 2008 (paragraph 16.9);

.9 rename/extend the target completion date of the following work programme item, namely:

.1 "Development of an e-navigation strategy implementation Plan" with a target completion date of ~~2008~~ [4 sessions] (paragraph 13.22).

25.3 The Committee is also invited to approve the proposed agenda for the Sub-Committee's fifty-fifth session (annex 16), which has been developed using the agenda management procedure and to endorse the report on the status of the Sub-Committee's planned outputs in the High-level Action Plan for the current biennium (paragraph 22.9 and annex 17).

***

ANNEX 1

NEW AND AMENDED TRAFFIC SEPARATION SCHEMES

"IN THE APPROACHES TO THE PORT OF THESSALONIKI"

(Reference chart: Hellenic Navy Hydrographic Service Chart No.255, edition May 1979 – as updated.
Note: The chart is based on European Datum (RE 50), however the positions mentioned below are in accordance with Word Geodetic System 1984 Datum (WGS 84).)

Description of the traffic separation scheme

The routeing measures consist of a traffic separation scheme southwest of the Ak. Mikro Emvolon.

(a) A separation line connects the following geographical positions:

(4)	40° 33′.39 N	022° 51′.96 E
(5)	40° 29′.94 N	022° 46′.66 E

(b) A separation zone connects the following geographical positions:

(5)	40° 29′.94 N	022° 46′.66 E
(6)	40° 27′.24 N	022° 46′.11 E
(7)	40° 27′.24 N	022° 45′.18 E

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

(1)	40° 27′.24 N	022° 47′.21 E
(2)	40° 29′.94 N	022° 47′.46 E
(3)	40° 33′.06 N	022° 52′.36 E

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

(8)	40° 27′.24 N	022° 43′.86 E
(9)	40° 30′.12 N	022° 46′.11 E
(10)	40° 33′.69 N	022° 51′.61 E

THE "ÅLAND SEA"

***Note**:* See "Åland Sea Deep-Water routes" in part C.

(Reference chart: Finnish chart number 953, Edition 2007 V and Swedish chart SE61 (INT1205) Edition 21/2-2008.
Note: This chart is based on the World Geodetic System 1984 Datum (WGS 84).)

Description of the traffic separation scheme

North Åland Sea

Part I

(a) A separation line connecting the following geographical positions:

(1) 60° 29′.52 N 019° 00′.30 E (2) 60° 26′.94 N 019° 00′.36 E

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

(3) 60° 29′.54 N 018° 56′.36 E (4) 60° 26′.89 N 18° 57′.05 E

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

(5) 60° 26′.89 N 19° 03′.88 E (6) 60° 29′.51 N 019° 04′.56 E

Part II

(d) A separation zone 1.1 mile wide is centred upon the following geographical positions:

(7) 60° 11′.06 N 019° 03′.21 E (8) 60° 10′.09 N 019° 04′.80 E

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

(9) 60° 09′.79 N 019° 00′.12 E (10) 60° 08′.83 N 019° 01′.71 E

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

(11) 60° 11′.36 N 019° 07′.89 E (12) 60° 12′.33 N 019° 06′.30 E

South Åland Sea TSS

Part I

(g) A separation zone 1.1 mile wide is centred upon the following geographical positions:

(13) 59° 47′.28 N 019° 42′.44 E (14) 59° 46′.30 N 019° 44′.04 E

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

(15) 59° 46′.01 N 019° 39′.39 E (16) 59° 45′.04 N 019° 40′.99 E

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

(17) 59° 47′.57 N 019° 47′.10 E (18) 59° 48′.55 N 019° 45′.50 E

Part II

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

(19) 59° 46′.03 N 019° 52′.85 E (21) 59° 45′.36 N 019° 58′.85 E
(20) 59° 45′.96 N 019° 58′.87 E (22) 59° 45′.42 N 019° 53′.83 E

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

(23) 59° 44′.24 N 019° 55′.74 E (24) 59° 44′.25 N 019° 58′.80 E

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

(25) 59° 46′.96 N 019° 58′.92 E (26) 59° 47′.37 N 019° 50′.68 E

Part III

(m) A separation line connecting the following geographical positions:

(27) 59° 41′.22 N 020° 31′.98 E (28) 59° 43′.32 N 020° 28′.38 E
(29) 59° 44′.76 N 020° 23′.10 E

(n) A traffic lane for the eastbound traffic is established between the separation line, and the following geographical positions:

(30) 59° 44′.32 N 020° 19′.60 E (32) 59° 40′.56 N 020° 30′.34 E
(31) 59° 42′.87 N 020° 27′.57 E

(o) A traffic lane for the westbound traffic is established between the separation line, and a line connecting the following geographical positions:

(33) 59° 41′.93 N 020° 33′.72 E
(34) 59° 45′.68 N 020° 24′.51 E

Part IV

(p) A separation line connecting the following geographical positions:

(35) 59° 42′.26 N 019° 51′.55 E
(36) 59° 39′.70 N 019° 55′.19 E
(37) 59° 34′.26 N 020° 08′.40 E
(38) 59° 30′.27 N 020° 08′.40 E

(q) A separation line connecting the following geographical positions:

(39) 59° 30′.27 N 020° 06′.51 E
(40) 59° 33′.75 N 020° 06′.51 E
(41) 59° 39′.44 N 019° 54′.13 E
(42) 59° 41′.91 N 019° 50′.60 E

(r) A traffic lane for the southbound traffic is established between the separation line above in paragraph (q) and line connecting the following geographical positions:

(43) 59° 40′.89 N 019° 47′.83 E
(44) 59° 39′.57 N 019° 51′.58 E
(45) 59° 34′.89 N 019° 57′.20 E
(46) 59° 30′.27 N 019° 54′.70 E

(s) A traffic lane for the northbound traffic is established between the separation line above in paragraph (p) and following two lines connecting the following geographical positions:

Line 1
(47) 59° 30′.27 N 020° 15′.79 E
(48) 59° 33′.90 N 020° 15′.79 E
(49) 59° 33′.90 N 020° 30′.13 E

Line 2
(50) 59° 37′.92 N 020° 30′.13 E
(51) 59° 37′.92 N 020° 06′.72 E
(52) 59° 43′.59 N 019° 55′.17 E

(t) The traffic is separated by natural obstructions (Svenska Björn lighthouse in geographical position 59°32′.86 N 020°01′.24 E and two shallow waters) inside the traffic lane for the southbound traffic by a line connecting the following geographical positions:

(53) 59° 30′.27 N 020° 01′.84 E
(54) 59° 34′.15 N 020° 01′.84 E
(55) 59° 34′.15 N 019° 59′.68 E
(56) 59° 30′.27 N 019° 59′.68 E

Precautionary areas

(u) A precautionary area is bounded by a line connecting the following geographical positions.

(16) 59° 46′.01 N 019° 39′.39 E
(17) 59° 47′.57 N 019° 47′.10 E
(26) 59° 46′.96 N 019° 58′.92 E
(23) 59° 44′.24 N 019° 55′.74 E
(52) 59° 43′.59 N 019° 55′.17 E
(43) 59° 40′.89 N 019° 47′.83 E

(v) A circular precautionary area of radius of 6.5 nautical miles is centred upon the following geographical position:

(57) 59° 52′.03 N 019° 34′.66 E

"IN LIVERPOOL BAY"

Note: See ATBA "In Liverpool Bay"

(Reference Chart: British Admiralty 1978, Edition 2007
Note: This chart is based on World Geodetic System 1984 Datum (WGS 84).)

Description of the traffic separation scheme

(a) A separation zone (east of the "Douglas Oil Field" Platform), 1.0 nautical mile wide, is bounded by lines connecting the following geographical positions:

(1)	53° 32′.76 N	003° 32′.18 W
(2)	53° 32′.74 N	003° 33′.83 W
(3)	53° 31′.74 N	003° 33′.80 W
(4)	53° 31′.76 N	003° 32′.15 W

(b) A separation zone (west of the "Douglas Oil Field" Platform), 1.0 nautical mile wide, is bounded by lines connecting the following geographical positions:

(5)	53° 32′.72 N	003° 35′.51 W
(6)	53° 32′.64 N	003° 41′.30 W
(7)	53° 31′.64 N	003° 41′.27 W
(8)	53° 31′.72 N	003° 35′.48 W

(c) A traffic lane for east-bound traffic, 1.8 nautical miles wide, is established between the separation zones and a separation line connecting the following geographical positions:

(9)	53° 29′.96 N	003° 32′.10 W
(10)	53° 29′.84 N	003° 41′.21 W

(d) A traffic lane for west-bound traffic, 1.8 nautical miles wide is established between the separation zones and a separation line connecting the following geographical positions:

(11)	53° 34′.56 N	003° 32′.24 W
(12)	53° 34′.44 N	003° 41′.36 W

AMENDMENTS TO THE EXISTING TRAFFIC SEPARATION SCHEME "IN THE APPROACH TO BOSTON, MASSACHUSETTS"

(Reference charts: United States 13009, 2007 edition; 13200, 2007 edition.
Note: These charts are based on North American 1983 Datum which is equivalent to WGS 1984 Datum.)

Description of the amended traffic separation scheme

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

(1) 42° 20′.73 N 070° 39′.06 W (3) 40° 49′.25 N 069° 00′.81W
(2) 42° 18′.28 N 070° 01′.14 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′.47 N 068° 58′.67 W (6) 42° 22′.71 N 070° 38′.62 W
(5) 42° 20′.17 N 069° 59′.40 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′.82 N 070° 40′.49 W (9) 40° 48′.03 N 069° 02′.96 W
(8) 42° 16′.39N 070° 02′.88 W

Precautionary areas

(a) A precautionary area of radius 6.17 nautical miles is centred upon the following geographical position (12) 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 (13) 40° 35′.01 N, 068° 59′.96 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′.47 N 068° 58′.67 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′.95 W (10) 40° 36′.76 N 069° 15′.13 W

AMENDED TRAFFIC SEPARATION SCHEME "OFF LAND'S END, BETWEEN SEVEN STONES AND LONGSHIPS"

(Reference Charts: British Admiralty 1148 (published 06/2001), 2565 (published 06/2001)
Note: These charts are based on World Geodetic System 1984 Datum (WGS 84).)

Description of the amended traffic separation scheme

(a) A separation zone, two miles wide, is bounded by lines connecting the following geographical positions:

(1)	49º 58′.02 N	005º 55′.76 W
(2)	50º 20′.03 N	005º 55′.76 W
(3)	50º 20′.03 N	005º 58′.88 W
(4)	49º 56′.52 N	005º 58′.88 W

(b) A separation zone, one mile wide, is bounded by lines connecting the following geographical positions:

(5)	50º 00′.99 N	005º 49′.58 W
(6)	50º 20′.03 N	005º 49′.58 W
(7)	50º 20′.03 N	005º 51′.11 W
(8)	50º 00′.22 N	005º 51′.11 W

(c) A separation zone, one mile wide, is bounded by lines connecting the following geographical positions:

(9)	49º 54′.29 N	006º 03′.56 W
(10)	50º 20′.03 N	006º 03′.56 W
(11)	50º 20′.03 N	006º 05′.06 W
(12)	49º 53′.54 N	006º 05′.06 W

(d) A traffic lane for northbound traffic, three miles wide, is established between the separation zones described in paragraphs (a) and (b) above.

(e) A traffic lane for southbound traffic, three miles wide, is established between the separation zones described in paragraphs (a) and (c) above.

Inshore Traffic Zones

(f) The area between the eastern boundary of the TSS and Land's End, and which lies between a line drawn from position (5) above in a direction of 078° to the coast and a line drawn from position (13) 50º 08′.00 N, 005º 49′.52 W, 005º 49′.58 W in a direction of 090° to the coast at Pendeen Point, is designated an inshore traffic zone.

(g) The area between the western boundary of the TSS and the Isles of Scilly, and which lies between a line drawn from position (12) above in a direction of 270° to the islands and a line drawn from position (14) 50º 08′.00 N, 006º 05′.00 W, 50º 08′.00 N, 006º 05′.06 W in a direction of 225° to Round Island Lighthouse, is designated an inshore traffic zone.

AMENDED TRAFFIC SEPARATION SCHEME "IN THE APPROACHES TO THE RIVER HUMBER"

(Reference Charts: British Admiralty 109, (published 06/2006), 107, (published 09/2004)
***Note*:** These charts are based on World Geodetic System 1984 Datum (WGS 84).)

Description of the Traffic Separation Scheme (TSS)

The proposed amendment to the Humber Traffic Separation Scheme (TSS) comprises:

- Extending the existing TSS by 18 nautical miles in a NNE direction to enhance the safety of navigation in the area between Mid New Sand Buoy and the pilot boarding area north of Humber Light Float.

Part I

Entrance to River Humber within Port Area

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

(1)	53° 34′.22 N	000° 06′.32 E	
(2)	53° 33′.54 N	000° 05′.70 E	
(3)	53° 33′.14 N	000° 06′.80 E	(Hobo)
(4)	53° 33′.92 N	000° 07′.43 E	(No. 3A Binks)
(1)	53° 34′.22 N	000° 06′.32 E	

(b) A separation line connecting the following geographical positions:

(5)	53° 33′.54 N	000° 07′.13 E	(Delta)
(6)	53° 32′.73 N	000° 09′.65 E	(Charlie)

(c) A traffic lane for inbound traffic established between the separation line specified in paragraph (b) above and a straight line connecting the following geographical positions:

(4)	53° 33′.92 N	000° 07′.43 E	(No. 3A Binks)
(7)	53° 33′.16 N	000° 10′.27 E	

(d) A traffic lane for outbound traffic established between the separation line specified in paragraph (b) above and a straight line connecting the following geographical positions:

(3)	53° 33′.14 N	000° 06′.80 E	(Hobo)
(8)	53° 32′.34 N	000° 09′.11 E	(No. 2B)

(e) A precautionary area established by a line connecting the following geographical positions:

(7)	53° 33′.16 N	000° 10′.27 E	
(8)	53° 32′.34 N	000° 09′.11 E	(No. 2B)
(9)	53° 32′.38 N	000° 11′.12 E	
(10)	53° 33′.16 N	000° 11′.17 E	

(11)	53° 33′.07 N	000° 10′.63 E	(No. 3 Chequer)
(7)	53° 33′.16 N	000° 10′.27 E	

(f) A separation line connecting the following geographical positions:

(12)	53° 32′.67 N	000° 11′.15 E	(Bravo)
(13)	53° 32′.82 N	000° 13′.20 E	(Alpha)

(g) A traffic lane for inbound traffic established between the separation line specified in paragraph (f) above and a straight line connecting the following geographical positions:

(10)	53° 33′.16 N	000° 11′.17 E
(14)	53° 33′.52 N	000° 13′.80 E

(h) A traffic lane for outbound traffic established between the separation line specified in paragraph (f) above and a straight line connecting the following geographical positions:

(9)	53° 32′.38 N	000° 11′.12 E
(15)	53° 32′.41 N	000° 12′.80 E

Part II

River Humber Approaches

(i) A precautionary area established by a line connecting the following geographical positions:

(15)	53° 32′.41 N	000° 12′.80 E	
(16)	53° 32′.42 N	000° 13′.18 E	(No. 2 Haile Sand)
(17)	53° 30′.59 N	000° 16′.61 E	
(18)	53° 31′.90 N	000° 18′.29 E	(Hotspur)
(19)	53° 33′.57 N	000° 18′.29 E	
(20)	53° 34′.22 N	000° 17′.59 E	(S. Haile)
(21)	53° 34′.74 N	000° 16′.54 E	(S. Binks)
(22)	53° 33′.56 N	000° 14′.19 E	(Spurn Light Float)
(14)	53° 33′.52 N	000° 13′.80 E	
(15)	53° 32′.41 N	000° 12′.80 E	

Eastern Approaches (Sea Reach)

(j) A separation line connecting the following geographical positions:

(23)	53° 32′.72 N	000° 18′.29 E	(Inner Sea Reach)
(24)	53° 32′.72 N	000° 22′.95 E	(Outer Sea Reach)

(k) A traffic lane for inbound traffic established between the separation line specified in paragraph (j) above and a straight line connecting the following geographical positions:

(19)	53° 33′.57 N	000° 18′.29 E
(25)	53° 33′.57 N	000° 22′.95 E

(l) A traffic lane for outbound traffic established between the separation line specified in paragraph (j) above and a straight line connecting the following geographical positions:

(18)	53° 31′.90 N	000° 18′.29 E	(Hotspur)
(26)	53° 31′.90 N	000° 22′.95 E	

South-east Approaches (Rosse Reach)

(m) A separation line connecting the following geographical positions:

(27)	53° 31′.24 N	000° 17′.44 E	(Inner Rosse Reach)
(28)	53° 29′.89 N	000° 20′.79 E	(Outer Rosse Reach)

(n) A traffic lane for inbound traffic established between the separation line specified in paragraph (m) above and a straight line connecting the following geographical positions:

(18)	53° 31′.90 N	000° 18′.29 E	(Hotspur)
(29)	53° 30′.56 N	000° 21′.57 E	

(o) A traffic lane for outbound traffic established between the separation line specified in paragraph (m) above and a straight line connecting the following geographical positions:

(17)	53° 30′.59 N	000° 16′.61 E
(30)	53° 29′.19 N	000° 19′.97 E

Part III

North-east Approaches (New Sand Hole)

(p) A separation line connecting the following geographical positions:

(31)	53° 34′.48 N	000° 17′.06 E
(32)	53° 36′.99 N	000° 20′.64 E
(35)	53° 38′.52 N	000° 21′.87 E

(q) A traffic lane for inbound traffic established between the separation line specified in paragraph (p) above and a straight line connecting the following geographical positions:

(21)	53° 34′.74 N	000° 16′.54 E	(S. Binks)
(33)	53° 37′.27 N	000° 20′.10 E	(Outer Binks)
(36)	53° 38′.70 N	000° 21′.24 E	

(r) A traffic lane for outbound traffic established between the separation line specified in paragraph (p) above and a straight line connecting the following geographical positions:

(20)	53° 34′.22 N	000° 17′.59 E	(S. Haile)
(34)	53° 36′.72 N	000° 21′.20 E	(Mid New Sand)
(37)	53° 38′.35 N	000° 22′.49 E	(North New Sand)

AMENDED TRAFFIC SEPARATION SCHEME "AT HATTER BARN"

Note: See mandatory ship reporting system "In the Storebælt (Great Belt) Traffic Area (BELTREP)" in part G, section I.

(Reference chart: Danish chart no. 128, 9th edition, October 2007.
Note: The chart is based on World Geodetic System 1984 Datum (WGS 84).)

Description of the amended traffic separation scheme

(a) A separation line connects the following geographical positions:

(1) 55° 54′.67 N 010° 56′.40 E (2) 55° 50′.03 N 010° 49′.58 E

(b) A traffic lane of 675 metres wide at the narrowest part, for north-eastbound traffic, is established between the separation line and a separation zone connecting the following geographical positions:

(3) 55° 54′.75 N 010° 57′.87 E
(4) 55° 53′.88 N 010° 56′.08 E
(5) 55° 52′.42 N 010° 53′.93 E
(6) 55° 49′.64 N 010° 50′.24 E
(7) 55° 47′.89 N 010° 50′.24 E
(8) 55° 47′.89 N 010° 51′.64 E
(9) 55° 53′.27 N 010° 59′.53 E
(10) 55° 54′.75 N 011° 00′.00 E

(c) A traffic lane of 800 metres wide, for south-westbound traffic is established between the separation line and a separation line connecting the following geographical positions:

(11) 55° 54′.61 N 010° 55′.31 E (12) 55° 50′.54 N 010° 49′.34 E

Notes:

1 The minimum depth of water below mean sea level in the traffic separation scheme is 15 m.

2 Ships with a draught of more than 13 m should use the deep-water route which lies northwest of the traffic separation scheme.

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ANNEX 2

ROUTEING MEASURES OTHER THAN TRAFFIC SEPARATION SCHEMES

ESTABLISHMENT OF A NEW RECOMMENDATORY SEASONAL AREA TO BE AVOIDED "IN THE GREAT SOUTH CHANNEL", OFF THE EAST COAST OF THE UNITED STATES

(Reference charts: United States 13009, 2007 edition; 13200, 2007 edition. ***Note***: These charts are based on North American 1983 Datum which is equivalent to WGS 1984 Datum.)

Description of the Area To Be Avoided

In order to significantly reduce ship strikes of the highly endangered North Atlantic right whale, ships of 300 gross tonnage and above – during the period of April 1st through July 31st – should avoid the area bounded by lines connecting the following geographical positions:

(1)	41° 44′.14 N	069° 34′.83 W
(2)	42° 10′.00 N	068° 31′.00 W
(3)	41° 24′.89 N	068° 31′.00 W
(4)	40° 50′.47 N	068° 58′.67 W

ESTABLISHMENT OF A NEW AREA TO BE AVOIDED AND TWO NEW MANDATORY NO ANCHORING AREAS IN THE VICINITY OF THE PROPOSED "EXCELERATE NORTHEAST GATEWAY ENERGY BRIDGE DEEPWATER PORT" IN THE ATLANTIC OCEAN

(Reference charts: United States 13009, 2007 edition; 13200, 2007 edition; 13246, 2006 edition; 13267, 2007 edition. ***Note***: These charts are based on North American 1983 Datum which is equivalent to WGS 1984 Datum.)

Description of an Area To Be Avoided and mandatory no anchoring areas

Area To Be Avoided

An area of approximately 2.86 nautical square miles contained within an oval of radius 1,250 metres vectored from the two centre positions for STL Buoys "A" and "B", respectively, an Area to be Avoided for all ships except authorized ships is established in the area bounded as follows:

Starting at	(1)	42° 24′.29 N	070° 35′.27 W
A rhumb line to	(2)	42° 24′.59 N	070° 36′.76 W
Then an arc with a 1250 m radius centred at	(3)	42° 23′.94 N	070° 37′.01 W
To a point	(4)	42° 23′.29 N	070° 37′.25 W
Then a rhumb line to	(5)	42° 22′.99 N	070° 35′.76 W
Then an arc with a 1250 m radius centred at	(6)	42° 23′.64 N	070° 35′.52 W
Then to point	(1)	42° 24′.29 N	070° 35′.27 W

Mandatory no anchoring areas

Two areas contained within a circle of radius 1,000 metres centred upon the following geographical positions are established as mandatory no anchoring areas:

STL Buoy "A" – 42° 23′.64 N, 070° 35′.52 W
STL Buoy "B" – 42° 23′.94 N, 070° 37′.01 W

ESTABLISHMENT OF NEW DEEP-WATER ROUTES LEADING TO THE ÅLAND SEA

Note: See traffic separation scheme for the "Åland Sea".

(Reference chart: Finnish chart number 953, Edition 2007 V and Swedish chart SE61 (INT1205) Edition 21/2-2008.
Note: Those charts are based on the World Geodetic System 1984 Datum (WGS 84).)

Description of the deep-water routes:

Inside the borders of the "North Åland Sea" TSS

A deep-water route forming part of the "North Åland Sea" TSS is established between the lines connecting the following geographical positions:

(i)	60° 29′.54 N	018° 56′.36 E	(iv)	60° 15′.26 N	019° 03′.50 E
(ii)	60° 18′.87 N	018° 59′.16 E	(v)	60° 18′.47 N	019° 01′.68 E
(iii)	60° 15′.28 N	018° 58′.08 E	(vi)	60° 29′.51 N	019° 04′.56 E

Inside the borders of the "South Åland Sea" TSS

A deep-water route forming part of the "South Åland Sea" TSS is established between the lines connecting the following geographical positions:

(vii)	59° 42′.26 N	019° 51′.55 E	(xi)	59° 30′.27 N	020° 06′.51 E
(viii)	59° 39′.70 N	019° 55′.19 E	(xii)	59° 33′.75 N	020° 06′.51 E
(ix)	59° 34′.26 N	020° 08′.40 E	(xiii)	59° 39′.44 N	019° 54′.13 E
(x)	59° 30′.27 N	020° 08′.40 E	(xiv)	59° 41′.91 N	019° 50′.60 E

ESTABLISHMENT OF A NEW TWO-WAY ROUTE LEADING TO THE ÅLAND SEA

(Reference chart: Finnish chart number 953, Edition 2007 V and Swedish chart SE61 (INT1205) Edition 21/2-2008.
Note: This chart is based on the World Geodetic System 1984 Datum (WGS 84).)

Description of the two-way route in the South Åland Sea

A recommended two-way route is established in the area joining the following geographical positions:

(24) 59° 44′.25 N 019° 58′.80 E
(30) 59° 44′.32 N 020° 19′.60 E
(29) 59° 44′.76 N 020° 23′.10 E
(34) 59° 45′.68 N 020° 24′.51 E
(25) 59° 46′.96 N 019° 58′.92 E

ESTABLISHMENT OF A NEW AREA TO BE AVOIDED "IN LIVERPOOL BAY"

Note: See Traffic Separation Scheme "In Liverpool Bay".

(Reference Chart: British Admiralty 1978, Edition 2007.
Note: This chart is based on World Geodetic System 1984 Datum (WGS 84).)

Description of the Area To Be Avoided

In order to provide access to the Douglas Oil Field Platform an Area To Be Avoided (ATBA) of 1 nautical mile square centred on the Douglas Field Platform has been established within the Liverpool Bay Traffic Separation Scheme joining the following geographical positions:

(2) 53° 32′.74 N 003° 33′.83 W
(3) 53° 31′.74 N 003° 33′.80 W
(5) 53° 32′.72 N 003° 35′.51 W
(8) 53° 31′.72 N 003° 35′.48 W

Note: The ATBA should be avoided by all vessels, except in cases of emergency to avoid immediate danger, other than the following types (to the extent necessary to carry out their operations):

(a) a vessel restricted in her ability to manoeuvre when engaged in the laying, servicing or picking up a navigation mark, submarine cable or pipeline;

(b) offshore supply, support, maintenance and Emergency Response and Rescue vessels attending the Douglas Field Platform;

(c) vessels engaged in hydrographic survey operations; and

(d) vessels engaged in fishing.

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ANNEX 3

DRAFT RESOLUTION MSC.[...](85)
(adopted on (..) December 2008)

ADOPTION OF THE NEW MANDATORY SHIP REPORTING SYSTEM "OFF THE COAST OF PORTUGAL – COPREP"

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, 1974 (SOLAS Convention), in relation to the adoption of 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 of Navigation at its fifty-fourth session,

1. ADOPTS, in accordance with SOLAS regulation V/11, the new mandatory ship reporting system "Off the coast of Portugal – COPREP";

2. DECIDES that the mandatory ship reporting system, "COPREP", will enter into force at [0000] hours UTC on […. 2009]; and

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
"OFF THE COAST OF PORTUGAL – COPREP"

1 Categories of ships required to participate in the system

The following vessels are required to participate in COPREP System:

(a) all vessels of 300 gross tonnage or above;

(b) all vessels carrying dangerous, hazardous and/or potentially polluting cargo;

(c) all passenger vessels;

(d) vessels engaged in towing or pushing where the combined length of the vessel and tow or pushed vessel is more than 100 m LOA;

(e) fishing vessels with an LOA of 24 m or above; and

(f) any other type of vessel is invited to voluntarily participate in the System.

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

2.1 Geographical coverage of the proposed systems

The Ship Reporting System area is bounded by the shore and:

(a) In the North: latitude 39º 45′ N

(b) In the West and South: By a line joining the following geographical positions:

(i) 39º 45′ N
010º 14′ W

(ii) 38º 41′ N
010º14′ W

(iii) 36º 30′ N
009º 35′ W

(iv) 36º 15′ N
008º 30′ W

(c) In the East: longitude 008º 30′ W

2.2 Reference chart

The reference chart is "Cabo Finisterra a Casablanca", Number 21101, Catalogue of Nautical Charts of the Portuguese Hydrographic Office, 4th impression – April 2002 (Note: This chart is based on WGS 84 Datum).

3 Reports and Procedures (Format and content of reports, authority to which reports should be sent)

3.1 Format

The format of information required in the COPREP reports is derived from the format given in resolution A.851(20) – General Principles for Ship Reporting Systems and Reporting Requirements.

3.2 Content

Vessels required to participate in the System shall make a report, with the short title "COPREP", to Roca Control and shall contain the following information, which is considered essential for the purpose of the System:

DESIGNATOR	INFORMATION REQUIRED
A	Ship's name and callsign IMO identification or MMSI number on request
C	Position (Latitude – Longitude), or
D	Distance and bearing from a landmark
E	True course in a three(3)-digit group
F	Speed in knots
G	Last port of call
H	Time (UTC) and point of entry in the reporting sector
I	Next port of call and ETA
P	Hazardous cargo, IMO class or UN number and quantity
Q or R	Breakdown, damage and/or deficiencies affecting, the structure, cargo or equipment of the vessel or any other circumstances affecting normal navigation, in accordance with the provisions of the SOLAS and MARPOL Conventions
W	Total number of persons on board (when requested)
X	Miscellaneous remarks (when requested)

Any vessel may elect, for reasons of commercial confidentiality, to communicate the information regarding cargo (designator P of the report), by non-verbal means prior to entering the System.

3.3 Time and geographical position for submitting reports

3.3.1 Ships must submit a report:

(a) on entering the reporting area as defined in paragraph 4.1; or

(b) immediately after leaving a port, terminal or anchorage situated in the reporting area; or

(c) when deviating from the route leading to the originally declared destination, port, terminal, anchorage or position "for orders" given on entry into the reporting area; or

(d) when it is necessary to deviate from the planned route owing to weather conditions, damaged equipment or a change in navigational status; or

(e) when it is detected something that could affect safety of navigation in the area; or

(f) on finally leaving the reporting area; or

(g) when requested by COPREP operator.

3.3.2 Ships who have submitted a voluntary report with the same designator letters prior to entering the reporting area are only required to submit a mandatory report:

(a) if there are any changes in previously submitted information;

(b) with designator letters "A" and "H" when entering the reporting area.

3.4 Shore-based authority

The shore-based authority for COPREP mandatory ship reporting system, to which these reports should be sent, is ROCA CONTROL (identified in paragraph 7).

4 Information to be provided to the participating ship and the procedures to be followed:

ROCA CONTROL is an information service. Ships are provided with information broadcasts on weather, hazards affecting the safety of navigation and other traffic in the area.

These broadcasts include:

(a) traffic information;

(b) hampered vessels such as vessels not under command or vessels restricted in their ability to manoeuvre;

(c) adverse weather conditions;

(d) weather warnings and forecast;

(e) displaced or defective aids to navigation;

(f) radar assistance; and

(g) information on local harbours.

Information is broadcast on request or whenever necessary. Information broadcasts on ROCA CONTROL VHF main channel are preceded by an announcement on VHF channel 16. Information may be more frequent on occasions of adverse weather conditions, reduced visibility and imminent incident or accident.

The VTS centre is linked to MRCC LISBON and pollution control authorities in order to allow a prompt response to any emerging distress or urgent situation.

5 Communication requirements for the system, including frequencies on which reports should be transmitted and information to be reported:

The communications required for the COPREP are as follows:

(a) The call to the shore-based authority shall be made on the VHF channel assigned to Vessel Traffic Service in the Portuguese Coast, or by the other available means based on the following contact information:

CALL:	**Roca Control**
TELEPHONE:	**351-214464830**
FAX:	**351-214464839**
E-mail:	**oper.vts@imarpor.pt**
VHF CHANNELS	
Primary channels:	**69** and **79** Secondary channel: **77**
CALL SIGN:	**CSG229**
MMSI:	**00 263 3030**

(b) The language used for communication shall be Portuguese or English, using the IMO Standard Marine Communications Phrases, where necessary.

(c) Information of commercial confidentiality may be transmitted by non-verbal means.

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

Portugal has taken appropriate action to implement international conventions to which it is a party including, where appropriate, adopting domestic legislation and promulgating regulations through domestic law. Relevant laws in force include domestic legislation and international regulations such as:

(a) International Regulations for Preventing Collisions at Sea (COLREGs), 1972, as amended;

(b) Safety of Life at Sea Convention (SOLAS), 1974;

(c) International Convention on the Prevention of Pollution from Ships (MARPOL 73/78); and

(d) Directive 2002/59/CE.

7 Shore-based facilities and personnel qualifications and training required to support the operation of the proposed system

7.1 Shore-based facilities

ROCA CONTROL maintains a continuous 24-hour watch over COPREP area. The facilities of the Roca Control are the following:

(a) 8 Coastal Radars:

(i) Long-range SCANTER primary radars

(ii) Focus of long distance sea side coverage

(iii) Special high gain 21" antennas

(iv) Surveillance of all the Continental Portuguese Coast

(v) Video from selected radar and combined radar data available to main centre's VTS operator;

(b) 8 Harbour Radars:

(i) Short range primary radars (for 3 of those)

(ii) Surveillance of the harbours approach area (for 5 of those)

(iii) Video from selected radar and combined radar data available to main centre's VTS operator;

(c) 11 AIS Sites:

(i) Automatic identification of ships:

- IMO standards
- 3 types of information: ship static, dynamic and voyage

(ii) Based on GPS positioning

(iii) AIS position data merged with radar data at operator display (TDS)

(iv) Ship identification correlated with National Maritime Ship Database;

(d) 11 Voice Radio Communication Sites:

(i) VHF voice radio communication with ships and aeronautical emergency channel

(ii) Complete coverage of Continental Portuguese Coast

(iii) VTS operators are able to communicate within the coverage area

(iv) Telephone and electronic communication between harbours and VTS control centres;

(e) 11 VHF Direction Finder Sites:

(i) Azimuthing of radio communication

(ii) Complete coverage of Continental Portuguese Coast

(iii) Data from all sites available for the VTS operators

(iv) RDF data is present on operator displays (TDS);

(f) 6 Meteorological Sites with:

(i) Anemometer, Thermometer, Barometer, Hygrometer, Rainfall indicator, Visibility sensors

(ii) Meteorological data of all sites will be presented to the VTS operators.

7.2 Personnel qualifications and training

The training given to ROCA CONTROL staff complies with the national and international recommendations and include a general study of navigational safety measures and the relevant national and international (IMO) provisions/requirements to support the operation of the proposed system.

8 Alternative procedures if the communication facilities of the shore-based authority fail

The system is designed to avoid, as far as possible, any irretrievable breakdown of equipment which would hinder the functioning of the services normally provided by ROCA CONTROL.

The most important items of equipment and power sources are duplicated and the facilities are provided with emergency generating sets as well as with Uninterruptible Power Supply (UPS) units. A maintenance team is available 24 hours a day to attend to any breakdown.

The system is also designed in such a manner that if one station fails, the adjacent station can provide the necessary coverage.

9 Actions to take in the event of emergency or ship's non-compliance with the system requirements

The main objectives of the system are to improve ships' safety in and off the Portuguese coast waters, support the organization of search and rescue and protect and improve the marine environment in the coast, developing the actions as fast and effective as possible if an emergency is reported or a report from a ship fails to appear, and it is impossible to establish communication with the ship. All means will be used to obtain the full participation of ships required to submit reports.

The mandatory ship reporting system COPREP is for the exchange of information only and does not provide any additional authority for mandating changes in the ship's operations. This reporting system will be implemented consistent with UNCLOS, SOLAS and other relevant international instruments so that the reporting system will not constitute a basis for preventing the passage of a ship through the reporting area.

Infringements of these regulations shall be punishable under Portuguese law, or reported to the ship's flag State in accordance with IMO resolution A.432(XI) – Compliance with the Convention on the International Regulations for Preventing Collisions at Sea, 1972, as amended.

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ANNEX 4

DRAFT RESOLUTION MSC.[…](85)
(adopted on (..) December 2008)

ADOPTION OF AMENDMENTS TO THE EXISTING SHIP REPORTING SYSTEM FOR THE "PAPAHĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT", PARTICULARLY SENSITIVE SEA AREA, "CORAL SHIPREP"

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, 1974 (SOLAS Convention), in relation to the adoption of 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 of Navigation at its fifty-fourth session,

1. ADOPTS, in accordance with SOLAS regulation V/11, the amendments to the existing ship reporting system for the Papahānaumokuākea Marine National Monument, PSSA, "CORAL SHIPREP", as given at Annex;

2. DECIDES that the said amendments to the existing ship reporting system "CORAL SHIPREP" will enter into force at [0000] hours UTC on […….. 2009]; and

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 SHIP REPORTING SYSTEM FOR THE PAPAHĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT, PSSA, "CORAL SHIPREP"

1 Amend the annex to resolution MSC.248(83) as follows:

The reporting address given in paragraphs 3.4.1, 5.3 and 5.4 is replaced by the following:

"nwhi.notifications@noaa-gov"

2 Amend the appendix to resolution MSC.248(83), as follows:

Appendix

Geographical coordinates

Ship reporting system

(Reference charts: United States 19016, 2007 edition; 19019, 2007 edition; 19022, 2007 edition. These charts are based on World Geodetic Survey (WGS) 1984 and astronomic Datum.)

1 Outer Boundary

The outer boundary of the "CORALSHIPREP" reporting area consists of lines connecting the following geographical positions:

Starting at	(1)	29° 24′.21 N,	178° 06′.45 W
A rhumb line to	(2)	29° 12′.16 N,	177° 04′.25 W
Then a rhumb line to	(3)	28° 43′.78 N,	175° 13′.76 W
Then a rhumb line to	(4)	27° 00′.28 N,	173° 25′.37 W
Then a rhumb line to	(5)	26° 44′.85 N,	171° 28′.22 W
Then a rhumb line to	(6)	26° 23′.95 N,	170° 20′.25 W
Then a rhumb line to	(7)	25° 56′.49 N,	167° 32′.03 W
Then a rhumb line to	(8)	24° 50′.23 N,	165° 58′.56 W
Then a rhumb line to	(9)	24° 02′.61 N,	161° 42′.30 W
Then an arc with a 60.25 nm radius centred at	(21)	23° 03′.61 N,	161° 55′.22 W
To a point	(10)	22° 04′.59 N,	162° 08′.14 W
Then a rhumb line to	(11)	22° 35′.32 N,	164° 53′.46 W
Then a rhumb line to	(12)	22° 47′.86 N,	166° 40′.44 W
Then a rhumb line to	(13)	24° 03′.30 N,	168° 27′.53 W
Then a rhumb line to	(14)	24° 26′.59 N,	170° 50′.37 W
Then a rhumb line to	(15)	24° 46′.49 N,	171° 52′.87 W
Then a rhumb line to	(16)	25° 07′.23 N,	174° 30′.23 W
Then a rhumb line to	(17)	27° 05′.50 N,	176° 35′.40 W
Then a rhumb line to	(18)	27° 15′.11 N,	177° 35′.26 W
Then a rhumb line to	(19)	27° 26′.10 N,	178° 32′.23 W
Then an arc with a 60.17 nm radius centred at	(20)	28° 25′.23 N,	178° 19′.51 W
Then to point	(1)	29° 24′.21 N,	178° 06′.45 W

2 Inner Boundary

The inner boundaries of the "CORAL SHIPREP" SRS reporting area are coterminous with the outer boundaries of the IMO-adopted Areas To Be Avoided "In the Region of the Papahānaumokuākea Marine National Monument", which consist of the following:

1 Those areas contained within circles of radius of 50 nautical miles centred upon the following geographical positions:

a. 28° 25′.18 N, 178° 19′.75 W (Kure Atoll)
b. 28° 14′.20 N, 177° 22′.10 W (Midway Atoll)
c. 27° 50′.62 N, 175° 50′.53 W (Pearl and Hermes Atoll)
d. 26° 03′.82 N, 173° 58′.00 W (Lisianski Island)
e. 25° 46′.18 N, 171° 43′.95 W (Laysan Island)
f. 25° 25′.45 N, 170° 35′.32 W (Maro Reef)
g. 25° 19′.50 N, 170° 00′.88 W (Maro Reef and Raita Bank)
h. 25° 00′.00 N, 167° 59′.92 W (Gardner Pinnacles)
i. 23° 45′.52 N, 166° 14′.62 W (French Frigate Shoals)
j. 23° 34′.60 N, 164° 42′.02 W (Necker Island)
k. 23° 03′.38 N, 161° 55′.32 W (Nihoa Island)

2 Those areas contained between the following geographical coordinates:

		Begin Coordinates		End Coordinates	
		Latitude	Longitude	Latitude	Longitude
Area 1	Lisianski Island (N) ---> Laysan Island	26° 53′.22 N	173° 49′.64 W	26° 35′.58 N	171° 35′.60 W
	Lisianski Island (S) ---> Laysan Island	25° 14′.42 N	174° 06′.36 W	24° 57′.63 N	171° 57′.07 W
Area 2	Gardner Pinnacles (N)--> French Frigate Shoals	25° 38′.90 N	167° 25′.31 W	24° 24′.80 N	165° 40′.89 W
	Gardner Pinnacles (S) ---> French Frigate Shoals	24° 14′.27 N	168° 22′.13 W	23° 05′.84 N	166° 47′.81 W

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ANNEX 5

DRAFT SN CIRCULAR

GUIDELINES FOR APPLICATION OF THE MODULAR CONCEPT TO PERFORMANCE STANDARDS

1 The Sub-Committee on Safety of Navigation (NAV), at its fifty-fourth session (30 June to 4 July 2008), agreed on Guidelines for application of the modular concept to performance standards, for use when drafting new or revised performance standards.

2 The Maritime Safety Committee, at its [eighty-fifth session (26 November to 5 December 2008)], approved the circulation of the attached guidance on the application of the modular concept for future performance standards.

3 Member Governments are invited to bring the information to the attention of all parties concerned.

ANNEX

GUIDELINES FOR APPLICATION OF THE MODULAR CONCEPT TO PERFORMANCE STANDARDS

1 Purpose

1.1 Due to the diversity of ships types and their individual needs, future systems should be of a modular structure, to allow the systems to be customized to support the users in all their tasks and situations and support their situation awareness. A modular structure of systems leads to a modular structure of the relevant performance standards.

1.2 With the modular concept, operational/functional and sensor/source modules are specified. This will allow clear separation between operational requirements for the task orientated use and presentation of information on equipment and systems, and between the sensor specific technical performance requirements.

1.3 The modular concept will allow the design of future systems to be flexible, task and situation orientated.

1.4 The modular concept allows modules specified in one performance standard to be referenced by other performance standards. This supports a consistent use of information on the various systems.

2 Scope

2.1 These guidelines are intended to assist in the consistent and logically structured drafting of new and revised performance standards for systems and equipment according to the modular concept.

2.2 These guidelines allow for the design of task and situation-dependent systems and equipment to enhance the safety of ship operation.

3 Application

3.1 These guidelines apply to all new or revised performance standards for systems and equipment.

3.2 Requirements specified in one performance standard should be invoked by referencing the applicable existing modules in other performance standards. The applicable definitions of the referenced modules should be transferred into the new and revised performance standards.

4 Modular structure of performance standards

4.1 Revised or new performance standards for systems and equipment should be structured in major modules.

4.2 The structure should comprise, as far as reasonable, the following modules:

- Sensor/source module
- Operational/functional module
- Interfacing module
- System and equipment documentation module

4.3 Depending on the purpose and scope of the performance standards further modules may be included.

5 Sensor/source module

5.1 The requirements included in the sensor/source module should specify the sensor/source performance of systems and equipment.

5.2 The module should therefore contain the requirements, for example, for:

- Sensor performance
- Signal processing
- Sensor installation
- Source database
- Data structure for processing and exchange

6 Operational/functional module

6.1 The requirements included in the operational/functional module should specify the operational and functional capabilities of systems and equipment.

6.2 The module should therefore contain requirements, for example, for:

- Functional requirements for the task to be fulfilled with the system according to the needs of the user
- Amount and content of necessary information
- Required alerts
- Human-machine-interface:
    - Operation of system
    - Display of information
- Functional integration within and between systems
- Redundancy
- Fallback
- Treatment of system failures

7 Interfacing module

7.1 The requirements included in the interfacing module should specify the connection and data exchange with other systems.

7.2 The module should therefore, at least contain requirements for:

- Interfacing (connection with other equipment)
- Data exchange, referencing to internationally accepted communication standards
- Connection to the ships power supply

8 System and equipment documentation module

8.1 The requirements included in the system and equipment documentation module should specify necessary documentation for the system and equipment.

8.2 The module should therefore contain documentation requirements such as:

- Information regarding system configuration
- Failure analysis
- Operating, installation and maintenance manuals
- Familiarization material for the user

9 Development of modules in performance standards

9.1 The development of performance standards should be carried out top down, from operational/functional requirements via concept to data structure.

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ANNEX 6

DRAFT RESOLUTION MSC.[…](85)
(adopted on (..) December 2008)

ADOPTION OF AMENDMENTS TO THE GENERAL PROVISIONS ON SHIPS' ROUTEING (RESOLUTION A.572(14), AS AMENDED)

THE MARITIME SAFETY COMMITTEE,

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

RECOGNIZING the importance that the routeing measures boundary symbology and charting of archipelagic sea lanes used in the General Provisions on Ships' Routeing should correctly reflect those adopted by IHO,

TAKING INTO ACCOUNT the decision of the Sub-Committee on Safety of Navigation at its fifty-fourth session to align the routeing measures boundary symbology and charting of archipelagic sea lanes in Annexes 1 and 2 of General Provisions on Ships' Routeing,

HAVING CONSIDERED, at its eighty-fifth session, the text of proposed amendments to Annexes 1 and 2 of the General Provisions on Ships' Routeing (resolution A.572(14), as amended), to align them with the specifications for routeing measures boundary symbology and charting of archipelagic sea lanes adopted by IHO,

1. ADOPTS the Amendments to the General Provisions on Ships' Routeing (resolution A.527(14), as amended), to align them with the specifications for routeing measures boundary symbology and charting of archipelagic sea lanes adopted by IHO, the text of which is set out in the Annex to the present resolution;

2. DETERMINES that amendments to the General Provisions on Ships' Routeing including amendments to the General Provisions for the adoption, designation and substitution of archipelagic sea lanes shall be adopted, brought into force and shall take effect in accordance with the provisions of A.572(14), as amended;

3. INVITES Governments intending to submit proposals for the adoption of ships' routeing systems including, designation and substitution of archipelagic sea lanes to take account of the annexed General Provisions;

4. REQUESTS the Secretary-General to bring this resolution and its Annex to the attention of all Contracting Governments to the SOLAS Convention and to Members of the Organization which are not Contracting Governments to the Convention.

ANNEX

PROPOSED AMENDMENTS TO RESOLUTION A.572(14), AS AMENDED – GENERAL PROVISIONS ON SHIPS' ROUTEING

1 Annex 1 – General Provisions on Ships' Routeing

1.1 Amend section 9.4, as follows:

Section 9.4 Boundary symbols in detail

5	Inshore traffic zone (ends) ---------- Open sea	⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ or no symbol (limits undefined)
15	Two-way route ---------- All other areas	Same rules as for deep-water route

2 Annex 2 – General Provisions for the Adoption, Designation and Substitution of Archipelagic Sea Lanes.

2.1 Amend section 7.6 as follows:

7.6 Symbol for outer limits of archipelagic sea lanes

Unless otherwise specified, symbols are printed on charts in colour, usually magenta.

Description	Symbol	Note
1 Outer limit of archipelagic sea lane, including where 10% rule applies	▲ ▲ ▲ ▲	1

Note:

1 The solid triangle indicator points into the archipelagic sea lane. The full outer limit of archipelagic sea lane may be charted where it is considered appropriate.

2.2 Amend section 7.7 as follows:

Replace the existing symbol for outer limit of ASL with the following symbol:

2 Outer limit	▲ ▲ ▲ ▲

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ANNEX 7

DRAFT AMENDMENTS TO SOLAS REGULATION V/19 (BNWAS)

CHAPTER V

SAFETY OF NAVIGATION

Regulation 19 – Carriage requirements for shipborne navigational systems and equipment

1 After existing subparagraph 2.2.2, add a new subparagraph V/19.2.2.3 as follows:

".3 a bridge navigational watch alarm system (BNWAS) complying with standards not inferior to those adopted by the Organization*, as follows:

.1 ships of 150 gross tonnage and upwards and passenger ships irrespective of size constructed on or after [1 July 2011];

.2 passenger ships irrespective of size constructed before [1 July 2011], not later than the first survey** after [1 July 2012];

.3 ships of 3,000 gross tonnage and upwards constructed before [1 July 2011], not later than the first survey** after [1 July 2012];

.4 ships of 500 gross tonnage and upwards but less than 3,000 gross tonnage constructed before [1 July 2011], not later than the first survey** after [1 July 2013]; and

.5 ships of 150 gross tonnage and upwards but less than 500 gross tonnage constructed before [1 July 2011], not later than the first survey** after [1 July 2014].

The bridge navigational watch alarm system shall be in operation whenever the ship is underway at sea."

2 Add a new subparagraph V/19.2.2.4 as follows:

".4 Bridge navigational watch alarm system (BNWAS) installed prior to 1 July 2011 may subsequently be exempted from full compliance with such standards at the discretion of the Administration."

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* Refer to the recommendation adopted by the Organization by resolution MSC.128(75) on Performance standards for a bridge navigational watch alarm system (BNWAS).

** The term "first survey" means the first annual survey, the first periodical survey or the first renewal survey for safety equipment or any other survey if the Administration deems it to be reasonable and practicable, taking into account the extent of repairs and alterations being undertaken, whichever is due first after the date specified in this regulation and, in addition, in the case of ships under construction, the initial survey (MSC/Circ.1141).

ANNEX 8

LIAISON STATEMENT TO ITU-R WP 5B

SATELLITE DETECTION OF AIS

IMO would like to thank ITU-R for the liaison statement from WP 5B's February 2008 meeting concerning the Preliminary draft new report ITU-R M.[SAT-AIS] on Improved satellite detection of AIS (annex 23 to document WP 5B/45).

The Sub-Committee on Safety of Navigation, at its fifty-fourth session (30 June to 4 July 2008) (NAV 54), considered the liaison statement and noted that, up to now, the issue of satellite detection of AIS as such had never been discussed in detail in the Maritime Safety Committee (MSC) or one of its relevant Sub-Committees (NAV or COMSAR). NAV 54 was therefore of the opinion that it was important for IMO to firstly make a clear decision on the issue, before communicating any position or request to ITU-R. Therefore, NAV 54 has requested MSC 85, which will meet from 26 November to 5 December 2008, to consider the issue of satellite detection of AIS and to provide clear guidance on this matter. Following this, IMO would be able to more clearly define its views on the satellite detection of AIS and will inform ITU-R in due course.

Working Party 5B is requested to note the information provided.

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ANNEX 9

DRAFT SN CIRCULAR

CORRIGENDA TO SN/CIRC.227 ON GUIDELINES FOR THE INSTALLATION OF A SHIPBORNE AUTOMATIC IDENTIFICATION SYSTEM (AIS)

1 The Sub-Committee on Safety of Navigation (NAV), at its fifty-fourth session (30 June to 4 July 2008), agreed on an amendment to annex 2 of the guidelines for the installation of a Shipborne Automatic Identification System (AIS).

2 The amendment contains the consequential change with regard to the entry into force of resolution MEPC.118(52), concerning the change in the categorization and listing of Noxious Liquid Substances and other substances. The Sub-Committee noted that the number of categories to be reported was the same, and therefore it was sufficient to revise the reference documentation SN/Circ.227, annex 2, to reflect the new classification letters corresponding to the same digits as currently in use by the AIS shipborne equipment. Practically this means that the reference hazard or pollutant categories A, B, C and D are changed to the hazard or pollutant categories X, Y, Z and OS, by using the same digits 1, 2, 3 and 4.

3 Users of AIS equipment are invited to note this equivalence when using the displays of existing AIS installations.

4 The Maritime Safety Committee, at its [eighty-fifth session (26 November to 5 December 2008)], concurred with the Sub-Committee's views, approved the corrigenda to the Guidelines for the installation of a shipborne Automatic Identification System (AIS), as set out at annex.

5 Member Governments are invited to bring the annexed amended annex 2 of the guidelines to the attention of all concerned.

ANNEX 2

TYPE OF SHIP TABLE

Identifiers to be used by ships to report their type			
Identifier No.	Special craft		
50	Pilot vessel		
51	Search and rescue vessels		
52	Tugs		
53	Port tenders		
54	Vessels with anti-pollution facilities or equipment		
55	Law enforcement vessels		
56	Spare – for assignments to local vessels		
57	Spare – for assignments to local vessels		
58	Medical transports (as defined in the 1949 Geneva Convention and Additional Protocols)		
59	Ships according to Resolution No 18 (Mob-83)		
Other ships			
First digit (*)	Second digit (*)	First digit (*)	Second digit (*)
1 – reserved for future use	0 – All ships of this type	-	0 – Fishing
2 – WIG	1 – Carrying DG, HS, or MP IMO hazard or pollutant category **X** (**)	-	1 – Towing
3 – see right column	2 – Carrying DG, HS, or MP IMO hazard or pollutant category **Y** (**)	3 – Vessel	2 – Towing and length of the tow exceeds 200 m or breadth exceeds 25 m
4 – HSC	3 – Carrying DG, HS, or MP IMO hazard or pollutant category **Z** (**)	-	3 – Engaged in dredging or underwater operations
5 – see above	4 – Carrying DG, HS, or MP IMO hazard or pollutant category **OS** (**)	-	4 – Engaged in diving operations
	5 – reserved for future use	-	5 – Engaged in military operations
6 – Passenger ships	6 – reserved for future use	-	6 – Sailing
7 – Cargo ships	7 –reserved for future use	-	7 – Pleasure Craft
8 – Tanker(s)	8 – reserved for future use	-	8 – reserved for future use
9 – Other types of ship	9 – No additional information	-	9 – reserved for future use

DG: Dangerous Goods.
HS: Harmful Substances.
MP: Marine Pollutants.

(*) **NOTE** – The identifier should be constructed by selecting the appropriate first and second digits.
(**) **NOTE** – The digits 1, 2, 3 and 4 reflecting categories X, Y, Z and OS formerly were categories A, B, C and D.

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ANNEX 10

DRAFT LIAISON STATEMENT TO ITU, IEC and IALA

ITU-R RECOMMENDATION M.1371-3

The Sub-Committee on Safety of Navigation (NAV), at its [fifty-fourth session (30 June to 4 July 2008),] considered the impact of resolution MEPC.118(52) upon existing AIS shipboard installations.

In September 2004, IMO's Marine Environment Protection Committee (MEPC) had adopted resolution MEPC.118(52) which introduced a new amendment to annex 2 of the MARPOL Convention, which entered into force on 1 January 2007.

As a consequence, with the entry into force of resolution MEPC.118(52), the reference to hazard or pollutant categories A, B, C and D have changed to hazard or pollutant categories X, Y, Z and OS.

Taking into account that the number of categories to be reported is the same, IMO has changed its reference documentation, amended annex 2 of SN/Circ.227, which is attached for ease of reference.

Working Party 5B is requested to note this change and consider making a similar change in any future revision of ITU-R Recommendation M.1371-3, Annex 8, Table 45 and Table 50.

IEC and IALA are also requested to note this change and consider making similar changes to their documentation, as appropriate.

ANNEX

DRAFT SN CIRCULAR

CORRIGENDA TO SN/CIRC.227 ON GUIDELINES FOR THE INSTALLATION OF A SHIPBORNE AUTOMATIC IDENTIFICATION SYSTEM (AIS)

1 The Sub-Committee on Safety of Navigation (NAV), at its fifty-fourth session (30 June to 4 July 2008), agreed on an amendment to annex 2 of the guidelines for the installation of a Shipborne Automatic Identification System (AIS).

2 The amendment contains the consequential change with regard to the entry into force of resolution MEPC.118(52), concerning the change in the categorization and listing of Noxious Liquid Substances and other substances. The Sub-Committee noted that the number of categories to be reported was the same, and therefore it was sufficient to revise the reference documentation SN/Circ.227, annex 2, to reflect the new classification letters corresponding to the same digits as currently in use by the AIS shipborne equipment. Practically this means that the reference hazard or pollutant categories A, B, C and D are changed to the hazard or pollutant categories X, Y, Z and OS, by using the same digits 1, 2, 3 and 4.

3 Users of AIS equipment are invited to note this equivalence when using the displays of existing AIS installations.

4 The Maritime Safety Committee, at its [eighty-fifth session (26 November to 5 December 2008)], concurred with the Sub-Committee's views, approved the corrigenda to the Guidelines for the installation of a shipborne Automatic Identification System (AIS), as set out at annex.

5 Member Governments are invited to bring the annexed amended annex 2 of the guidelines to the attention of all concerned.

ANNEX 2

TYPE OF SHIP TABLE

Identifiers to be used by ships to report their type			
Identifier No.	Special craft		
50	Pilot vessel		
51	Search and rescue vessels		
52	Tugs		
53	Port tenders		
54	Vessels with anti-pollution facilities or equipment		
55	Law enforcement vessels		
56	Spare – for assignments to local vessels		
57	Spare – for assignments to local vessels		
58	Medical transports (as defined in the 1949 Geneva Convention and Additional Protocols)		
59	Ships according to Resolution No 18 (Mob-83)		
Other ships			
First digit (*)	Second digit (*)	First digit (*)	Second digit (*)
1 – reserved for future use	0 – All ships of this type	-	0 – Fishing
2 – WIG	1 – Carrying DG, HS, or MP IMO hazard or pollutant category **X** (**)	-	1 – Towing
3 – see right column	2 – Carrying DG, HS, or MP IMO hazard or pollutant category **Y** (**)	3 – Vessel	2 – Towing and length of the tow exceeds 200 m or breadth exceeds 25 m
4 – HSC	3 – Carrying DG, HS, or MP IMO hazard or pollutant category **Z** (**)	-	3 – Engaged in dredging or underwater operations
5 – see above	4 – Carrying DG, HS, or MP IMO hazard or pollutant category **OS** (**)	-	4 – Engaged in diving operations
	5 – reserved for future use	-	5 – Engaged in military operations
6 – Passenger ships	6 – reserved for future use	-	6 – Sailing
7 – Cargo ships	7 –reserved for future use	-	7 – Pleasure Craft
8 – Tanker(s)	8 – reserved for future use	-	8 – reserved for future use
9 – Other types of ship	9 – No additional information	-	9 – reserved for future use

DG: Dangerous Goods.
HS: Harmful Substances.
MP: Marine Pollutants.

(*) **NOTE** – The identifier should be constructed by selecting the appropriate first and second digits.
(**) **NOTE** – The digits 1, 2, 3 and 4 reflecting categories X, Y, Z and OS formerly were categories A, B, C and D.

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ANNEX 11

PROVISIONAL DRAFT RESOLUTION MSC.[...][(87)]
(adopted on [.. May 2010])

ASSURING SAFETY DURING DEMONSTRATIONS, PROTESTS, OR CONFRONTATIONS ON THE HIGH SEAS

THE MARITIME SAFETY COMMITTEE,

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

CONSIDERING THAT the safety of vessels[1], crew, and other persons on board such vessels on the high seas is of paramount importance to the Organization and its Member States and has long been the common interest of nations worldwide,

AFFIRMING the rights and obligations relating to legitimate and peaceful forms of demonstration, protest, or confrontation and noting that there are international instruments that may be relevant to these rights and obligations,

BEARING IN MIND that the Organization does not condone any actions that intentionally imperil human life, the marine environment, or property,

SERIOUSLY CONCERNED that demonstrations, protests, or confrontations involving vessels on the high seas may affect or compromise the safety and security of such vessels and may lead to incidents that cause a risk to human life, the marine environment, or property,

RECOGNIZING the need to cooperate as appropriate, in accordance with relevant rules of international law and respective domestic laws and regulations, to ensure that actions that intentionally imperil human life, the marine environment, or property are adequately addressed,

RECALLING FURTHER that the Organization has adopted important instruments directed at the safety and security of vessels, crew, and other persons on those vessels including in particular the Convention on the International Regulations for Preventing Collisions at Sea 1972 (COLREG), as amended, which sets uniform rules and principles for avoiding collisions at sea; the International Convention for the Safety of Life at Sea, 1974 (SOLAS) as amended, in particular chapter V pertaining to safety of navigation and chapter XI/2 pertaining to special measures to enhance maritime safety and security; the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, 1988 and its Protocol for the Suppression of Unlawful Acts against Fixed Platforms Located on The Continental Shelf (the SUA Convention and its 1988 Protocol), relating to international cooperation for the prevention of unlawful acts against the safety of maritime navigation and platforms, and actions against alleged offenders; and the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978, as amended, which has provisions pertaining to watchkeeping arrangements,

[1] The term "vessel" used in this resolution is meant to be interpreted in the broadest manner possible and includes definitions in applicable IMO instruments of "ship" and "vessel".

RECALLING ALSO the relevant provisions of the 1982 United Nations Convention on the Law of the Sea (UNCLOS) and of customary international law of the sea related to activities of vessels on the high seas,

HAVING CONSIDERED, at its [eighty-seventh] session, the recommendations of the Sub-Committee on Safety of Navigation and the Sub-Committee on Flag State Implementation,

1. RECALLS AND REAFFIRMS the importance of safety of vessels, crew, and other persons on board such vessels;

2. CONDEMNS any actions that intentionally imperil human life, the marine environment, or property during demonstrations, protests, or confrontations on the high seas;

3. CALLS UPON Governments to urge:

.1 persons and entities under their jurisdiction to refrain from actions that intentionally imperil human life, the marine environment, or property during demonstrations, protests, or confrontations on the high seas;

.2 all vessels entitled to fly their flag to comply with the applicable instruments adopted by this Organization directed at safety of navigation, security, and safety of life at sea;

.3 all vessels, during demonstrations, protests, or confrontations on the high seas, to comply with COLREG and SOLAS by taking all steps to avoid collisions and safeguard navigation, security, and safety of life at sea; and

.4 all vessels, during demonstrations, protests, or confrontations on the high seas, to conduct their radio communications in accordance with the International Telecommunication Union Radio Regulations;

4. ALSO CALLS UPON Governments to take such measures as may be necessary to establish jurisdiction over any offences set forth in the SUA Convention and its 1988 Protocol;

5. FURTHER CALLS UPON Governments, consistent with international law and their domestic laws and regulations, to conduct inquiries into every marine casualty or incident of navigation on the high seas that imperils safety of vessels, crew, or other persons on board such vessels that involve a vessel entitled to fly their flag;

6. ENCOURAGES Governments, consistent with international law and their domestic laws and regulations, to cooperate as appropriate to ensure that actions that intentionally imperil human life, the marine environment, or property on the high seas are adequately addressed; and

7. REQUESTS Governments to bring this resolution to the attention of all entities concerned, in particular those that might be involved during demonstrations, protests or confrontations on the high seas.

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ANNEX 12

DRAFT STRATEGY FOR THE DEVELOPMENT AND IMPLEMENTATION OF E-NAVIGATION

1 DEFINITION AND SCOPE

1.1 E-navigation is the harmonized collection, integration, exchange, presentation and analysis of marine information on board and ashore by electronic means to enhance berth to berth navigation and related services for safety and security at sea and protection of the marine environment.

1.2 E-navigation is intended to meet present and future user needs through harmonization of marine navigation systems and supporting shore services.

2 THE NEED FOR E-NAVIGATION

2.1 There is a clear and compelling need to equip shipboard users and those ashore responsible for the safety of shipping with modern, proven tools that are optimized for good decision making in order to make maritime navigation and communications more reliable and user friendly. The overall goal is to improve safety of navigation and to reduce errors. However, if current technological advances continue without proper coordination there is a risk that the future development of marine navigation systems will be hampered through a lack of standardization on board and ashore, incompatibility between vessels and an increased and unnecessary level of complexity.

2.2 The Strategic Plan for the Organization for the period 2008-2013* recognizes that technological developments have created new opportunities, but may also have negative consequences. New opportunities therefore exist to further develop various IMO initiatives, from safety and security to environmental protection. Developments in communications and information technology will provide opportunities to develop knowledge management so as to increase transparency and accessibility to information. The challenge for IMO is to:

.1 ensure that the technological developments adopted are conducive to enhancing maritime safety, security and protection of the environment, and take into account the need for their global application;

.2 ensure the proper application of information technology within the Organization and to provide enhanced access to that information for the shipping industry and others; and

.3 ensure that new equipment for use on board ships is designed and manufactured with the needs, skills and abilities of all users in mind.

* Resolution A.989(25).

3 THE CASE FOR E-NAVIGATION

3.1 Rising trends of marine accidents both in terms of numbers and costs are mainly associated with collisions and groundings. There are numerous examples of collisions and groundings that might have been avoided had there been suitable input to the navigation decision-making process.

3.2 Research indicates that around 60% of collisions and groundings are caused by direct human error. Despite advances in bridge resource management training, it seems that the majority of watchkeeping officers make critical decisions for navigation and collision avoidance in isolation, due to a general reduction in manning.

3.3 In human reliability analysis terms, the presence of someone checking the decision-making process improves reliability by a factor of 10. If e-navigation could assist in improving this aspect, both by well-designed onboard systems and closer cooperation with vessel traffic management (VTM) instruments and systems, risk of collisions and grounding and their inherent liabilities could be dramatically reduced.

3.4 However, although e-navigation may be able to improve the situations described above, there is also a need to recognize the role of the practice of good seamanship, the provision of suitable training and the use of procedures.

4 VISION OF E-NAVIGATION

4.1 A vision of e-navigation is embedded in the following general expectations for the onboard, ashore and communications elements:

.1 **On board**

Navigation systems that benefit from the integration of own ship sensors, supporting information, a standard user interface, and a comprehensive system for managing guard zones and alerts. Core elements of such a system will include, actively engaging the mariner in the process of navigation to carry out his/her duties in a most efficient manner, while preventing distraction and overburdening;

.2 **Ashore**

The management of vessel traffic and related services from ashore enhanced through better provision, coordination, and exchange of comprehensive data in formats that will be more easily understood and utilized by shore-based operators in support of vessel safety and efficiency; and

.3 **Communications**

An infrastructure providing authorized seamless information transfer on board ship, between ships, between ship and shore and between shore authorities and other parties with many related benefits.

5 CORE OBJECTIVES OF E-NAVIGATION

5.1 The core objectives of the e-navigation concept are to:

.1 facilitate safe and secure navigation of vessels having regard to hydrographic, meteorological and navigational information and risks;

.2 facilitate vessel traffic observation and management from shore/coastal facilities, where appropriate;

.3 facilitate communications, including data exchange, among ship to ship, ship to shore, shore to ship, shore to shore and other users;

.4 provide opportunities for improving the efficiency of transport and logistics;

.5 support the effective operation of contingency response, and search and rescue services;

.6 demonstrate defined levels of accuracy, integrity and continuity appropriate to a safety-critical system;

.7 integrate and present information on board and ashore through a human-machine interface which maximizes navigational safety benefits and minimizes any risks of confusion or misinterpretation on the part of the user;

.8 integrate and present information onboard and ashore to manage the workload of the users, while also motivating and engaging the user and supporting decision-making;

.9 incorporate training and familiarization requirements for the users throughout the development and implementation process;

.10 facilitate global coverage, consistent standards and arrangements, and mutual compatibility and interoperability of equipment, systems, symbology and operational procedures, so as to avoid potential conflicts between users; and

.11 support scalability, to facilitate use by all potential maritime users.

6 BENEFITS OF E-NAVIGATION

6.1 The main broad benefits of e-navigation are expected to be:

.1 improved safety, through promotion of standards in safe navigation supported by:

.1 improved decision support enabling the mariner and competent authorities ashore to select relevant unambiguous information pertinent to the prevailing circumstances;

.2 a reduction in human error through provision of automatic indicators, warnings and fail-safe methods;

.3 improved coverage and availability of consistent quality Electronic Navigational Charts (ENCs);

.4 introduction of standardized equipment with an S-Mode* option but without restricting the ability of manufacturers to innovate;

.5 enhanced navigation system resilience, leading to improved reliability and integrity; and

.6 better integration of ship and shore-based systems; leading to better utilization of all human resources;

.2 better protection of the environment both by:

.1 improving navigation safety as above, thereby reducing the risk of collisions and groundings and the associated spillages and pollution;

.2 reducing emissions by using optimum routes and speeds; and

.3 enhancement of ability and capacity in responding and handling of emergencies such as oil spills;

.3 augmented security by enabling silent operation mode for shore-based stakeholders for domain surveillance and monitoring;

.4 higher efficiency and reduced costs enabled by:

.1 global standardization and type approval of equipment augmented by a "fast track" change management process (in relation to technical standards for equipment);

.2 automated and standardized reporting procedures, leading to reduced administrative overhead;

.3 improved bridge efficiency allowing watch keepers to maximize time to keeping a proper lookout and embrace existing good practice, e.g., using more than one method to ascertain the ship's position; and

.4 integration of systems that are already in place, precipitating the efficient and coherent use of new equipment that meets all user requirements;

.5 improved human resource management by enhancing the experience and status of the bridge team.

* S-Mode is the proposed functionality for shipborne navigation displays using a standard, default presentation, menu system and interface.

7 BASIC REQUIREMENTS FOR THE IMPLEMENTATION AND OPERATION OF E-NAVIGATION

7.1 To attain these benefits, a number of basic requirements should be fulfilled as enablers to the implementation and operation of e-navigation. In particular:

.1 implementation of e-navigation should be based on user needs not technology-driven and over-reliance should not be placed on technology to avoid, for example:

.1 system failures causing delays because the ship is now deemed unseaworthy;

.2 loss of basic good seamanship by crews;

.3 inappropriate substitution of the human element by technology; and

.4 degradation of bridge resource management and best practices by the crew;

.2 operating procedures should be put in place and kept under review, most notably in relation to the human/machine interface, the training and development of mariners and the roles, responsibilities and accountabilities of ship- and shore-based users;

.3 the mariner should continue to play the core role in decision making even as the supporting role of the shore-based users increases;

.4 human factors and ergonomics should be core to the system design to ensure optimum integration including the Human Machine Interface (HMI), presentation and scope of information avoiding overload, assurance of integrity and adequate training;

.5 adequate resources should be made available and assured both for e-navigation itself and the necessary enablers such as training and radio-spectrum;

.6 implementation should be measured and not over-hasty; and

.7 costs should not be excessive.

8 POTENTIAL USERS OF E-NAVIGATION AND THEIR HIGH-LEVEL NEEDS

8.1 A significant number of potential ship and shore-based users of e-navigation have been identified and are summarized at annex 2.

8.2 A methodology was used to capture evolving user needs. It was based on the elements contained within the accepted definition of e-navigation and applied templates to define specific user needs based on the harmonized collection, integration, exchange, presentation, analysis and human element aspects for all users. Following extensive feedback from Member States, other maritime organizations, and interested parties, an analysis was conducted resulting in the identification of high-level generic user needs for both ship and shore users. Thus the needs of a typical SOLAS ship and a generic shore authority have been used as the basis for the identification of the high-level user needs reproduced below. A more detailed user needs may have to be identified as a part of the implementation plan.

.1 **Common Maritime Information/Data Structure**

Mariners require information pertaining to the planning and execution of voyages, the assessment of navigation risk and compliance with regulation. This information should be accessible from a single integrated system. Shore users require information pertaining to their maritime domain, including static and dynamic information on vessels and their voyages. This information should be provided in an internationally agreed common data structure. Such a data structure is essential for the sharing of information amongst shore authorities on a regional and international basis.

.2 **Automated and Standardized Reporting Functions**

E-navigation should provide automated and standardized reporting functions for optimal communication of ship and voyage information. This includes safety-related information that is transmitted ashore, sent from shore to shipborne users and information pertaining to security and environmental protection to be communicated amongst all users. Reporting requirements should be automated or pre-prepared to the extent possible both in terms of content and communications technology. Information exchange should be harmonized and simplified to reduce reporting requirements. It is recognized that security, legal and commercial issues will have to be considered in addressing communications needs.

.3 **Effective and Robust communications**

A clear need was expressed for there to be an effective and robust means of communications for ship and shore users. Shore-based users require an effective means of communicating with vessels to facilitate safety, security and environmental protection and to provide operational information. To be effective, communication with and between vessels should make best use of audio/visual aids and standard phrases to minimize linguistic challenges and distractions to operators.

.4 **Human Centred Presentation Needs**

Navigation displays should be designed to clearly indicate risk and to optimize support for decision making. There is a need for an integrated “alert management system” as contained in the revised recommendation on performance standards for Integrated Navigation Systems (INS) (resolution MSC.252(83)). Consideration

should be given to the use of decision support systems that offer suggested responses to certain alerts, and the integration of navigation alerts on board ships within a whole ship alert management system. Users require uniform and consistent presentations and operation functionality to enhance the effectiveness of internationally standardized training, certification and familiarization. The concept of S-Mode has been widely supported as an application on board ship during the work of the Correspondence Group. Shore users require displays that are fully flexible supporting both a Common Operating Picture (COP) and a User Defined Operating Picture (UDOP) with layered and/or tabulated displays. All displays should be designed to limit the possibility of confusion and misinterpretation when sharing safety-related information. E-navigation systems should be designed to engage and motivate the user while managing workload.

.5 **Human Machine Interface**

As electronic systems take on a greater role, facilities need to be developed for the capture and presentation of information from visual observations, as well as user knowledge and experience. The presentation of information for all users should be designed to reduce "single person errors" and enhance team operations. There is a clear need for the application of ergonomic principles both in the physical layout of equipment and in the use of light, colours, symbology and language.

.6 **Data and System Integrity**

E-navigation systems should be resilient and take into account issues of data validity, plausibility and integrity for the systems to be robust, reliable and dependable. Requirements for redundancy, particularly in relation to position fixing systems, should be considered.

.7 **Analysis**

E-navigation systems should support good decision making, improve performance and prevent single person error. To do so, shipboard systems should include analysis functions that support the user in complying with regulations, voyage planning, risk assessment, and avoiding collisions and groundings including the calculation of Under Keel Clearance (UKC) and air draughts. Shore-based systems should support environmental impact analysis, forward planning of vessel movements, hazard/risk assessment, reporting indicators and incident prevention. Consideration should also be given to the use of analysis for incident response and recovery, risk assessment and response planning, environment protection measures, incident detection and prevention, risk mitigation, preparedness, resource (e.g., asset) management and communication.

.8 **Implementation Issues**

Best practices, training and familiarization relating to aspects of e-navigation for all users should be effective and established in advance of technical implementation. The use of simulation to establish training needs and assess its effectiveness is endorsed. E-navigation should as far as practical be compatible

forwards and backwards and support integration with equipment and systems made mandatory under international and national carriage requirements and performance standards. The highest level of interoperability between e-navigation and external systems should be sought where practicable.

9 KEY STRATEGY ELEMENTS AND IMPLEMENTATION

KEY STRATEGY ELEMENTS

9.1 The key strategy elements for e-navigation based on user needs include: Architecture, Human Element, Convention and Standards, Position Fixing, Communication Technology and Information Systems, ENCs, Equipment and Standardization and Scalability are detailed below.

.1 **Architecture**

The overall conceptual, functional and technical architecture will need to be developed and maintained, particularly in terms of process description, data structures, information systems, communications technology and regulations.

.2 **Human Element**

Training, competency, language skills, workload and motivation are identified as essential. Alert management, information overload and ergonomics are prominent concerns. These aspects of e-navigation will have to be taken into account in accordance with IMO's Human Element work.

.3 **Conventions and Standards**

The provision and development of e-navigation should consider relevant international conventions, regulations and guidelines, national legislation and standards. The development and implementation of e-navigation should build upon the work of IMO*.

.4 **Position Fixing**

Position fixing systems will need to be provided that meet user needs in terms of accuracy, integrity, reliability and system redundancy in accordance with the level of risk and volume of traffic.

.5 **Communications Technology and Information Systems**

Communications technology and information systems will have to be identified to meet user needs. This work may involve the enhancement of existing systems or the development of new systems. Any impacts affecting existing systems will need to be identified and addressed, based on technical standards and protocols for data structure, technology, and bandwidth and frequency allocations.

* Includes but not limited to the requirements prescribed in SOLAS, MARPOL and STCW Conventions.

.6 **ENCs**

At NAV 53 IHO reported, "There would be adequate coverage of consistent ENCs by the time any further mandatory carriage requirements were likely to be adopted by IMO". The Sub-Committee was also of the opinion that the availability of ENCs worldwide was most important and requested IHO and Member Governments to continue their efforts in increasing the coverage. E-navigation will likely benefit from increased functionality of the future IHO S-100 standard.

.7 **Equipment Standardization**

This part of the work will follow the development of performance standards and will involve users and manufacturers.

.8 **Scalability**

IMO Member States have a responsibility for the safety of all classes of vessels. This may include the scalability of e-navigation for all potential users. Extension of the concept to non-SOLAS vessels should be seen as an important task, to be addressed, in the first instance through consultation on user requirements.

IMPLEMENTATION

Clear Ownership and Control

9.2 The governance of the e-navigation concept should reside in a single institution that has the technical, operational and legal competences needed to define and enforce the overarching framework with implementation, operation and enforcement taking place at the appropriate level – global, regional, national or local – within that framework. This approach does not mean that the governing organization has to carry out all tasks in-house – it can delegate as appropriate to competent bodies. Being responsible for establishing mandatory standards for enhancing the safety of life at sea, maritime security and protection of the marine environment as well as having a global remit, IMO is the only organization that is capable of meeting the overall governance requirement. Responsibilities that come with the ownership and control of the concept are specified in annex 1.

Implementation of the e-navigation strategy

9.3 The implementation plan will need to identify responsibilities and appropriate methods of delivery. Implementation of the strategy will also need to take into account promotion of the e-navigation concept to key stakeholder and user groups.

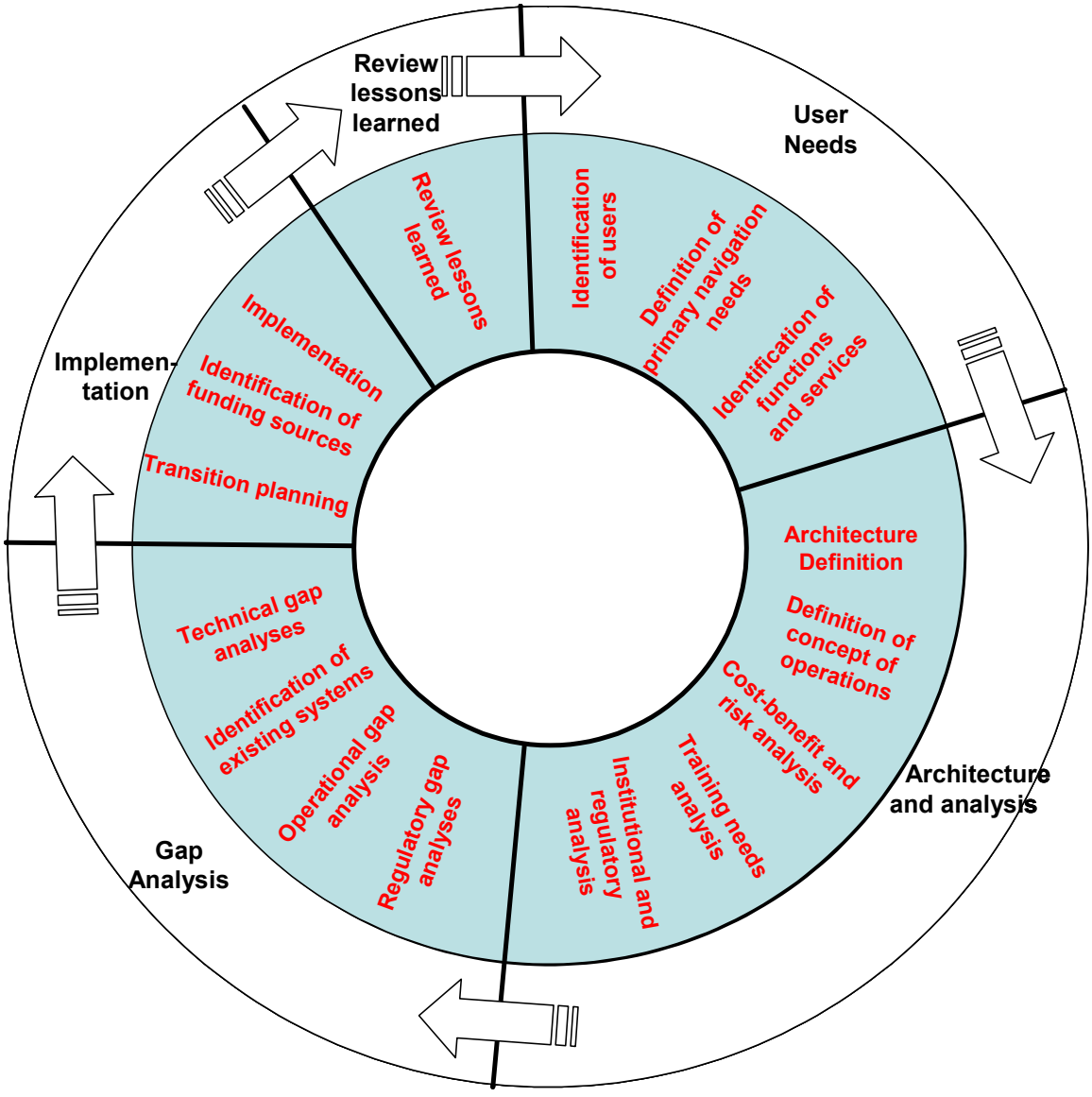
9.4 In order to capture evolving user needs, it is important that the implementation strategy elements remain under review. A structured approach will be required to capture evolving user needs, making use of the existing agreed methodology, to incorporate any ensuing changes into the strategy and implementation plan.

Strategy implementation plan

9.5 A strategy implementation plan should include priorities for deliverables, resource management and a schedule for implementation and the continual assessment of user needs. The identification of commonalities across users making best use of existing capabilities and systems should be considered. In the future, the deployment of new technologies should be based on a systematic assessment of how the technology can best meet defined and evolving user needs within the open structured e-navigation concept. Similarly, proposed changes to tasks and process, such as those resulting from the analysis of maritime accidents, should also incorporate the assessment of user needs. Co-operation with relevant maritime projects should be maintained throughout the implementation process in order to benefit from synergies.

Potential components of an e-navigation implementation process

9.6 Implementation of e-navigation should be a phased iterative process of continuous development including, but not necessarily limited to, the steps shown in the following figure:



9.7 The potential components of an e-navigation implementation plan are given below:

.1 User needs

The first step in the plan is that of identification of users and their requirements. The next step should be the identification of the groups of functions or services needed to meet these primary navigational needs, based on a structured, systematic and traceable methodology that relates the functions to tangible operational benefits;

.2 Architecture and analysis

.1 Definition

Definition of the integrated e-navigation system architecture and concept of operations should be based on consolidation of the user needs across the entire range of users, taking account all possible economies of scale. The architecture should include hardware, data, information, communications and software needed to meet the user needs;

.2 Cost-benefit and risk analysis

Cost-benefit and risk analysis should be an integral part of the programme. It should be used to inform strategic decisions, but also to support decision-making on where and when certain functions need to be enabled;

.3 Training needs analysis

Training needs analysis should be performed based on the system architecture and operational concept resulting in a training specification; and

.4 Institutional and regulatory requirements analysis

Institutional and regulatory requirements analysis should be undertaken, based on the system architecture and operational concepts,

.3 Gap analysis

The gap analysis should focus on the following elements:

.1 regulatory gap analyses particularly identifying gaps in the present frameworks that need to be filled, e.g., in the provision of services in international waters. Based on this analysis, any institutional reform that is needed should be proposed for implementation;

.2 operational gap analysis to define a reduced concept of operations that could be used based on the integration of existing technology and systems;

.3 identification and description of existing systems that could be integrated into the e-navigation concept* covering functionality, reliability, operational management responsibilities, regulatory status as to specification/standardization, fitment and use, generational status and integration with e-navigation system requirements; and

.4 technical gap analyses, comparing the capabilities and properties of existing systems with the architectural requirements to identify any technology or system development that might be needed, based solely on the user needs. This should result in a programme of development work that needs to be done to provide technology solutions to user requirements in their entirety.

Implementation of e-navigation

9.8 The implementation plan should identify responsibilities to the appropriate parties – IMO, other international organizations, States, users and industry – as well as timelines for implementation actions and reviews. A stable and realistic implementation plan will create forward enthusiasm and momentum for e-navigation across the maritime sector.

9.9 Implementation plan for e-navigation should comprise a number of component activities as described below:

.1 transition planning, taking into account the phasing needed to deliver early benefits and to make the optimum use of existing systems and services in the short term. The implementation plan should be phased such that the first phase can be achieved by fully integrating and standardizing existing technology and systems (the reduced architecture identified during the gap analysis) and using a reduced concept of operations. Subsequent phases should develop and implement any new technology that is required to deliver the preferred architecture and implement the overall concept of operations;

.2 identification of potential sources of funding for development and implementation, particularly for developing regions and countries and taking actions to secure that funding; and

.3 implementation itself, in phases, perhaps based on a voluntary equipage of (integrated) existing systems to begin with, but with mandatory equipage and use of a full e-navigation solution in the longer term.

Review of lessons learnt

9.10 The final phase of the iterative implementation programme should be to review, lessons learned and re-plan the subsequent phases of the plan. It is important to understand that e-navigation is not a static concept, and that development of logical implementation phases will be ongoing as user requirements evolve and also as technology develops enabling more efficient and effective systems. However, it is critical that this development takes place around a stable set of core systems and functions configured to allow extension over time.

* See annex 1.

ANNEX 1

RESPONSIBILITIES FOR OWNERSHIP AND CONTROL OF THE E-NAVIGATION CONCEPT BY IMO

The responsibilities that come with IMO ownership and control of the concept include:

.1 development and maintenance of the vision;

.2 definition of the services including their scope in terms of users and geography, and the concept of operations;

.3 identification of responsibilities for the design, implementation, operation and enforcement of e-navigation, acknowledging the rights, obligations and limitations of flag States, coastal States, port States and the various authorities within those States;

.4 defining the transition to e-navigation in a phased approach, enabling the realization of early benefits and the re-use of existing and emerging equipment, systems and services;

.5 taking the lead in setting the performance standards appropriate for e-navigation covering all the dimensions of the system: shipborne, ashore and communications. These standards should be based on user needs and should encourage technology neutrality and interoperability of system components;

.6 ensuring that the concept accommodates and builds on existing maritime systems and funding programmes;

.7 facilitating access to funding from international agencies, such as the World Bank, the regional Development Banks as well as international development funding;

.8 assessing and defining the training requirements associated with e-navigation and assisting the relevant bodies in developing and delivering the necessary training programmes;

.9 monitor the implementation of the concept to ensure that contracting States are fulfilling their obligations and ensuring that e-navigation users within their jurisdiction are also complying with requirements; and

.10 leading and coordinating the external communications effort necessary to support the case for e-navigation.

ANNEX 2

POTENTIAL E-NAVIGATION USERS

The tables below provide examples of e-navigation users classified into:

shipborne users, and

shore-based users.

Shipborne users
Generic SOLAS ships
Commercial tourism craft
High-speed craft
Mobile VTS assets
Pilot vessels
Coastguard vessels
SAR vessels
Law enforcement vessels (police, customs, border control, immigration, fisheries inspection)
Nautical assistance vessels (tugs, salvage vessels, tenders, fire fighting, etc.)
Counter pollution vessels
Military vessels
Fishing vessels
Leisure craft
Ferries
Dredgers
AtoN service vessels
Ice patrol/breakers
Offshore energy vessels (rigs, supply vessels, lay barges, survey vessels, construction vessels, cable layers, guard ships, production storage vessels)
Hydrographic survey vessels
Oceanographic research vessels

Shore-based users
Ship owners and operators, safety managers
VTM organizations
VTS centres
Pilot organizations
Coastguard organizations
Law enforcement organizations
National administrations
Coastal administrations
Port authorities
Security organizations
Port State control authorities
Incident managers
Counter pollution organizations
Military organizations
Fairway maintenance organizations
AtoN organizations
Meteorological organizations
Hydrographic Offices/Agencies
Ship owners and operators, logistics managers
News organizations
Coastal management authorities
Marine accident investigators
Health and safety organizations
Insurance and financial organizations
National, regional and local governments and administration
Port authorities (strategic)
Ministries
Marine environment managers
Fisheries management
Tourism agencies (logistics)
Energy providers
Ocean research institutes
Training organizations
Equipment and system manufacturers and maintainers

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ANNEX 13

DRAFT FRAMEWORK FOR THE IMPLEMENTATION PROCESS FOR THE E-NAVIGATION STRATEGY

Introduction

1 In order to implement e-navigation several steps are required. This would include a number of elements such as developing an architecture, gap analysis, cost benefit analysis and the creation of a detailed implementation plan.

2 In order to capture evolving user needs, it is important that the implementation strategy elements remain constantly under review. A structured and a phased approach would be required to capture evolving user needs, making use of the existing agreed methodology, to incorporate any ensuing changes into the strategy and implementation plan.

Strategy implementation plan

3 A strategy implementation plan for e-navigation should include priorities for deliverables and a schedule for implementation and the continual assessment of user needs. The deployment of new technologies should be based on a systematic assessment of how the technology can best meet defined and evolving user needs within the e-navigation concept.

User needs

4 The first step in the implementation process, i.e. identifying the initial user needs*, has been completed and includes the groups of functions/services needed to meet primary navigational needs based on a structured, systematic and traceable methodology that leads to tangible operational benefits. More detailed user needs, in particular scaled solutions, may need to be developed as a part of the overall implementation plan. The initial user needs should be further reviewed and prioritized by 2009.

Architecture

5 The architecture should include the hardware, data, information, communications technology and software needed to meet the user needs. The system architecture should be based on a modular and scaleable concept. The system hardware and software should be based on open architectures to allow scalability of functions according to the needs of different users and to cater to continued development and enhancement. This initial architecture should be ready for a coordinated review by 2009 and should be completed by 2010.

Gap analysis

6 Preliminary gap analysis has already been started by the Sub-Committee. Taking into account the human element throughout the process, further gap analyses should focus on technical, regulatory, operational and training aspects. It is recognized that these aspects are inter-related and need to be considered in a coordinated manner. The initial gap analyses needs to be completed by 2010.

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* See NAV 54/13, annex 5.

Cost-benefit and risk analyses

7 Cost-benefit and risk analyses should be an integral part of the plan. They should be used to support strategic decisions as and when certain functions need to be enabled. The analyses should address financial and economic aspects as well as assess the impact on safety, security and the environment. This should be completed by 2011.

Implementation plan

8 On completion of the aforementioned steps, implementation of the e-navigation plan could begin in 2012 and should include:

.1 identification of responsibilities to the appropriate organizations/parties;

.2 transition planning; and

.3 a phased implementation schedule along with possible roadmaps* to clarify common understanding necessary for the implementation.

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* The example provided by Japan in document NAV 54/13/4 could be used as a template.

ANNEX 14

DRAFT AMENDMENTS TO SOLAS REGULATION V/19 (ECDIS)

CHAPTER V

SAFETY OF NAVIGATION

Regulation 19 – Carriage requirements for shipborne navigational systems and equipment

1 After existing paragraph 2.9, add new paragraphs 2.10 and 2.11 as follows:

"2.10 Ships engaged on international voyages shall be fitted with an Electronic Chart Display and Information System (ECDIS) as follows:

.1 passenger ships of 500 gross tonnage and upwards constructed on or after [1 July 2012][1];

.2 tankers of 3,000 gross tonnage and upwards constructed on or after [1 July 2012];

.3 cargo ships, other than tankers, of 10,000 gross tonnage and upwards constructed on or after [1 July 2013];

.4 cargo ships, other than tankers, of 3,000 gross tonnage and upwards but less than 10,000 gross tonnage constructed on or after [1 July 2014];

.5 passenger ships of 500 gross tonnage and upwards constructed before [1 July 2012], not later than the first survey[2] on or after [1 July 2014];

.6 tankers of 3,000 gross tonnage and upwards constructed before [1 July 2012], not later than the first survey[2] on or after [1 July 2015];

.7 cargo ships, other than tankers, of 50,000 gross tonnage and upwards constructed before [1 July 2013], not later than the first survey[2] on or after [1 July 2016];

.8 cargo ships, other than tankers, of 20,000 gross tonnage and upwards but less than 50,000 gross tonnage constructed before [1 July 2013], not later than the first survey[2] on or after [1 July 2017];

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1 The Sub-Committee agreed, in principle, with the implementation dates specified in the square brackets.

2 The term "first survey" means the first annual survey, the first periodical survey or the first renewal survey for safety equipment, or any other survey if the Administration deems it to be reasonable and practicable, taking into account the extent of repairs and alterations being undertaken, whichever is due first after the date specified in this regulation and, in addition, in the case of ships under construction, the initial survey (MSC/Circ.1141).

.9 cargo ships, other than tankers, of 10,000 gross tonnage and upwards but less than 20,000 gross tonnage constructed before [1 July 2013], not later than the first survey[2] on or after [1 July 2018].

2.11 Administration may exempt ships from the application of the requirements of paragraph 2.10 when such ships will be taken permanently out of service within two years after the implementation date specified in subparagraphs 2.10.5 to 2.10.9 of paragraph 2.10."

2 Amend existing paragraph 2.14 as follows:

"2.1 All ships irrespective of size shall have:

……

.4 nautical charts and nautical publications to plan and display the ship's route for the intended voyage and to plot and monitor positions throughout the voyage. An electronic chart display and information system (ECDIS) is also accepted as meeting the chart carriage requirements of this subparagraph. Ships to which paragraph [2.10] applies shall comply with the carriage requirements for ECDIS detailed therein;"

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[2] The term "first survey" means the first annual survey, the first periodical survey or the first renewal survey for safety equipment, or any other survey if the Administration deems it to be reasonable and practicable, taking into account the extent of repairs and alterations being undertaken, whichever is due first after the date specified in this regulation and, in addition, in the case of ships under construction, the initial survey (MSC/Circ.1141).

ANNEX 15

DRAFT SN CIRCULAR

TRANSITIONING FROM PAPER CHART TO ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEMS (ECDIS) NAVIGATION

1 The Sub-Committee on Safety of Navigation (NAV), at its fifty-fourth session (30 June to 4 July 2008), while developing draft carriage requirements for ECDIS, recognizing that proper training will be an important factor in the successful implementation of an ECDIS carriage requirement; and, notwithstanding the expectation that the current review of the STCW Convention and STCW Code, due for completion in 2010, will fully take into account the human element and training requirements necessary for a smooth transition from the use of paper charts to ECDIS, agreed that Administrations, seafarers, shipowners and operators, maritime training organizations and ECDIS equipment manufacturers would all benefit from corresponding guidance transitioning from paper chart to ECDIS navigation, whenever ships are first equipped with ECDIS, regardless of whether or not it is part of a mandatory carriage requirement.

2 The NAV Sub-Committee therefore developed Guidance on transitioning from paper chart to Electronic Chart Display and Information Systems (ECDIS) navigation, as set out at annex.

3 The Maritime Safety Committee, at its [eighty-fifth session (26 November to 5 December 2008)], concurred with the Sub-Committee's views, approved the Guidance on transitioning from paper chart to Electronic Chart Display and Information Systems (ECDIS) navigation, as set out at annex and encouraged their use by the relevant authorities.

4 Contracting Governments and international organizations are invited to bring the annexed Guidance to the attention of all concerned.

ANNEX

GUIDANCE ON TRANSITIONING FROM PAPER CHART TO ECDIS NAVIGATION

Introduction

1 The following guidance and information is provided to assist those involved with the transition from paper chart to ECDIS navigation.

Transition and training

2 As an initial step shipowners and operators should undertake an assessment of the issues involved in changing from paper chart to ECDIS navigation. Ships' crews should participate in any such assessment so as to capture any practical concerns or needs of those that would be required to use ECDIS. Such a process will help facilitate an early understanding of any issues to be addressed and will aid ships' crews prepare for change.

3 Documenting the assessment of issues, combined with the development of ECDIS standard operating procedures, will help lead to the adoption of robust ECDIS navigation practices, simplification of crew training and facilitate smooth handovers between crews.

4 In addition, shipowners and operators should ensure that their ships' crews are provided with a comprehensive familiarization programme* and type-specific training; and that the ships' crew fully understand that the use of electronic charts aboard ship continues to require the need for passage planning.

IHO catalogue of chart coverage

5 The International Hydrographic Organization (IHO) provides an online chart catalogue that details the coverage of Electronic Navigational Charts (ENC) and Raster Navigational Charts (RNC) (where they exist and where there is not yet ENC coverage) together with references to coastal State guidance on any requirements for paper charts (where this has been provided). The catalogue also provides links to IHO Member States' websites where additional information may be found. The IHO online chart catalogue can be accessed from the IHO website at: www.iho.int.

Additional information

6 In addition to national and international rules, regulations, the IMO model course and performance standards, the IHO has published an online publication *Facts about electronic charts and carriage requirements*. It is a recommended source of information on ECDIS hardware, training and the technical aspects of electronic chart data. Copies are available free of charge from various sources including: www.iho.int and http://www.ic-enc.org/page_news_articles2.asp?id=12.

7 Another useful source of information on ECDIS is *The Electronic Chart*, 2nd edition, by Hecht, Berking, Büttgenbach, Jonas and Alexander (2006). This book describes the basic components, functionality and capabilities and limitations of ECDIS. *The Electronic Chart* is

* IMO Model Course 1.27 on Operational Use of Electronic Chart Display and Information Systems (ECDIS).

published by GITC, The Netherlands, ISBN: 90-806205-7-2 and is available via: www.hydro-international.com.

8 Reference should also be made to other Safety of Navigation Circulars (SN/Circs) issued by the Organization, in particular, SN/Circ.207/Rev.1 on Differences between RCDS and ECDIS; SN/Circ.213 on Guidance on chart datums and the accuracy of positions on charts; SN/Circ.255 on Additional guidance on chart datums and the accuracy of positions on charts; and SN/Circ.266 on Maintenance of Electronic Chart Display and Information System (ECDIS) software. These and other IMO guidance material can be downloaded from the IMO website, www.imo.org.

9 Shipowners and operators should always refer to their national Administrations for the latest information on ECDIS carriage and use.

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ANNEX 16

DRAFT REVISED WORK PROGRAMME OF THE SUB-COMMITTEE AND PROVISIONAL AGENDA FOR THE FIFTY-FIFTH SESSION

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** *Strategic direction:* 5.2 *High-level action:* 5.2.4 *Planned output:* 5.2.4.1	Continuous	MSC 72/23, paragraphs 10.69 to 10.71, 20.41 and 20.42; NAV 54/25, section 3
2	**Casualty analysis** (coordinated by FSI) *Strategic direction:* 12.1 *High-level action:* 12.1.2 *Planned output:* 12.1.2.1 to .2	Continuous	MSC 70/23, paragraphs 9.17 and 20.4; NAV 54/25, section 20
3	**Consideration of IACS unified interpretations** *Strategic direction:* 1.1 *High-level action:* 1.1.2 *Planned output:* 1.1.2.1	Continuous	MSC 78/26, paragraph 22.12; NAV 54/25, section 21
~~H.1~~	~~**Worldwide radionavigation system (WWRNS)**~~ ~~*Strategic direction:* 5.2~~ ~~*High-level action:* 5.2.4~~ ~~*Planned output:* -~~	~~2008~~	~~MSC 75/24, paragraph 22.37; NAV 53/22, section 12~~
	~~.1 new developments in the field of GNSS, especially Galileo~~	~~2008~~	
	~~.2 review and amendment of IMO policy for GNSS (resolution A.915(22))~~	~~2008~~	
	~~.3 recognition of radionavigation systems as components of the WWRNS (resolution A.953(23))~~	~~2008~~	

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 NAV 55.

Sub-Committee on Safety of Navigation (NAV) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.~~2~~ 1	**ITU matters** *Strategic direction:* *5.2* *High-level action:* *5.2.4* *Planned output:* *-*	2009	MSC 69/22, paragraphs 5.69 and 5.70; NAV 54/25, section 9
	.1 **Radiocommunication ITU-R Study Group ~~8~~ matters**	200~~8~~ 9	
H.~~3~~ 2	**Development of guidelines for IBS, including performance standards for bridge alert management** *Strategic direction:* *5.2* *High-level action:* *5.2.4* *Planned output:* *-*	2009	MSC 78/26, paragraph 24.30; NAV 54/25, section 4
~~H.4~~	~~**Amendments to COLREG Annex I related to colour specification of lights**~~ ~~*Strategic direction:* *5.2*~~ ~~*High-level action:* *5.2.4*~~ ~~*Planned output:* *5.2.4.1*~~	~~2008~~	~~MSC 80/24, paragraph 21.24.1; NAV 53/22, section 8~~
~~H.5~~	~~**Carriage requirements for a bridge navigational watch alarm system**~~ ~~*Strategic direction:* *5.2*~~ ~~*High-level action:* *5.2.4*~~ ~~*Planned output:* -~~	~~2008~~	~~MSC 81/25, paragraph 23.27; NAV 53/22, section 6~~
H.6	**Development of an e-navigation strategy implementation plan** (in co-operation with COMSAR and STW) *Strategic direction:* *5.2* *High-level action:* *5.2.4* *Planned output:* *-*	~~2008~~ [4 sessions]	MSC 81/25, paragraphs 23.34 to 23.37; NAV 54/25, section 13
~~H.7~~	~~**Development of carriage requirements for ECDIS**~~ ~~*Strategic direction:* *5.2*~~ ~~*High-level action:* *5.2.4*~~ ~~*Planned output:* *5.2.4.1*~~	~~2008~~	~~MSC 81/25, paragraphs 23.39 and 23.40; NAV 53/22, section 14~~

Sub-Committee on Safety of Navigation (NAV) (continued)

		Target completion date/number of sessions needed for completion	Reference
[~~H.8~~	~~**Guidelines for uniform operating limitations of high-speed craft** (coordinated by DE)~~ ~~*Strategic direction: 5.2*~~ ~~*High-level action: 5.2.4*~~ ~~*Planned output: 5.2.4.2*~~	~~2008~~	~~MSC 81/25, paragraph 23.45; NAV 53/22, section 15~~]
H.~~9~~3	**Guidelines on the layout and ergonomic design of safety centres on passenger ships** *Strategic direction:* 5.2 *High-level action:* 5.2.4 *Planned output:* 5.2.4.2	[200~~8~~ 9]	MSC 81/25, paragraph 23.42; NAV 54/25, section 16
~~H.10~~	~~**Amendments to the General Provisions on Ships' Routeing**~~ ~~*Strategic direction: 5.2*~~ ~~*High-level action: 5.2.4*~~ ~~*Planned output: 5.2.4.2*~~	~~2008~~	~~MSC 82/24, paragraph 21.34~~
~~H.11~~	~~**Review of COLREGs regarding the right of way of vessels over pleasure craft**~~ ~~*Strategic direction: 5.2*~~ ~~*High-level action: 5.2.4*~~ ~~*Planned output: 5.2.4.1*~~	~~2008~~	~~MSC 82/24, paragraph 21.35~~
H.~~12~~4	**Code of conduct during demonstrations/ campaigns against ships on high seas** (in co-operation with FSI) *Strategic direction:* 5.2 *High-level action:* 5.2.4 *Planned output:* 5.2.4.2	2009	MSC 82/24, paragraph 21.36; NAV 54/25, section 10
H.~~13~~5	**Measures to minimize incorrect data transmissions by AIS equipment** (in co-operation with FSI and COMSAR, as necessary) *Strategic direction:* 5.2 *High-level action:* 5.2.4 *Planned output:* 5.2.4.2	2009	MSC 82/24, paragraph 21.38; NAV 54/25, section 11

Sub-Committee on Safety of Navigation (NAV) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.~~14~~6	**Review of vague expressions in SOLAS regulation V/22** *Strategic direction:* 5.2 *High-level action:* 5.2.4 *Planned output:* 5.2.4.2	2009	MSC 82/24, paragraphs 21.39 to 21.40; NAV 54/25, section 17
H.~~15~~7	**Revision of the Guidance on the application of AIS binary messages** *Strategic direction:* 5.2 *High-level action:* 5.2.4 *Planned output:* 5.2.4.2	2009	MSC 82/24, paragraph 21.41; NAV 54/25, section 18
H.~~16~~8	**Improved safety of pilot transfer arrangements** (in co-operation with DE) *Strategic direction:* 5.2 *High-level action:* 5.2.4 *Planned output:* 5.2.4.2	2009	MSC 82/24, paragraph 21.42; NAV 54/25, section 19
H.~~17~~9	**Amendments to the Performance standards for VDR and S-VDR** *Strategic direction:* 5.2 *High-level action:* 5.2.4 *Planned output:* -	~~3 sessions~~ 2011	MSC 83/28, paragraph 25.34 MSC 84/24, paragraph 22.43
H.~~18~~10	**Development of procedures for updating shipborne navigation and communication equipment (in co-operation with COMSAR)** *Strategic direction:* 5.2 *High-level action:* 5.2.4 *Planned output:* -	~~2 sessions~~ 2010	MSC 83/28, paragraph 25.33
H.~~19~~11	**Safety provisions applicable to tenders operating from passenger ships (coordinated by DE)** *Strategic direction:* 5.2 *High-level action:* 5.2.4 *Planned output:* -	~~3 sessions~~ 2011	MSC 84/24, paragraph 22.40

Sub-Committee on Safety of Navigation (NAV) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.~~20~~12	**Guidelines for consideration of requests for safety zones larger than 500 metres around artificial islands, installations and structures in the EEZ** *Strategic direction:* 5.2 *High-level action:* 5.2.4 *Planned output:* -	~~2 sessions~~ 2010	MSC 84/24, paragraph 22.41

DRAFT PROVISIONAL AGENDA FOR NAV 55*

Opening of the session

1 Adoption of the agenda

2 Decisions of other IMO bodies

3 Routeing of ships, ship reporting and related matters

4 Development of guidelines for IBS, including performance standards for bridge alert management

5 Guidelines for consideration of requests for safety zones larger than 500 metres around artificial islands, installations and structures in the EEZ

6 Amendments to the Performance standards for VDR and S-VDR

7 Development of procedures for updating shipborne navigation and communication equipment

8 Safety provisions applicable to tenders operating from passenger ships

9 ITU matters, including Radiocommunication ITU-R Study Group matters

10 Code of conduct during demonstrations/campaigns against ships on high seas

11 Measures to minimize incorrect data transmissions by AIS equipment

12 Development of an e-navigation strategy implementation plan

13 Guidelines on the layout and ergonomic design of safety centres on passenger ships

14 Review of vague expressions in SOLAS regulation V/22

15 Revision of the Guidance on the application of AIS binary messages

16 Improved safety of pilot transfer arrangements

17 Casualty analysis

18 Consideration of IACS unified interpretations

19 Work programme and agenda for NAV 56

* Agenda item numbers do not necessarily indicate priority.

20 Election of Chairman and Vice-Chairman for 2010

21 Any other business

22 Report to the Maritime Safety Committee

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ANNEX 17

STATUS OF THE PLANNED OUTPUTS OF THE SUB-COMMITTEE RELATING TO THE HIGH-LEVEL ACTION PLAN OF THE ORGANIZATION AND PRIORITIES FOR THE 2008-2009 BIENNIUM

Strategic Directions (SDs) (A.989(25))				High-level Actions (HLAs)		Planned outputs for 2008-2009	
ENHANCING THE STATUS AND EFFECTIVENESS OF IMO							
1	IMO is the primary international forum for technical matters of all kinds affecting international shipping and legal matters related thereto. An inclusive and comprehensive approach to such matters will be a hallmark of IMO. In order to maintain that primacy, it will:	1.1	Further develop its role in maritime affairs *vis-à-vis* other intergovernmental organizations, so as to be able to deal effectively and comprehensively with complex cross-agency issues	1.1.2	Cooperate with the United Nations and other international bodies on matters of mutual interest	1.1.2.1	Cooperation with: - IACS: consideration of unified interpretations **Status: ongoing** - IHO: PSSA charting methods and symbols **Status: completed**
						1.1.2.2	Liaison statements issued to or from (MSC): - IALA: VTS, aids to navigation, e-navigation and AIS matters **Status: ongoing** - IEC: radiocommunications and safety of navigation **Status: ongoing** - IHO: hydrographic matters and promotion of ENCs covering various parts of the globe **Status: ongoing** - ITU: radiocommunications **Status: ongoing**
2	IMO will foster global compliance with its instruments governing international shipping and will promote their uniform implementation by Member States			2.1.1	Monitor and improve conventions, etc., and provide interpretation thereof if requested by Member States	2.1.1.5	Promotion of the implementation of mandatory and non-mandatory instruments (MSC) **Status: ongoing**
DEVELOPING AND MAINTAINING A COMPREHENSIVE FRAMEWORK FOR SAFE, SECURE, EFFICIENT AND ENVIRONMENTALLY SOUND SHIPPING							
5	IMO's highest priority will be the safety of human life at sea. In particular, greater emphasis will be accorded to:			5.2.4	Keep under review measures to improve navigational safety, including e-navigation, ships' routeing, ship reporting systems, vessel traffic services, requirements and standards for shipborne navigational aids and systems	5.2.4.1	New or amended mandatory IMO instruments (MSC): - Amendments to COLREG Annex I **Status:[completed]** - Amendments to SOLAS for the carriage of BNWAS **Status:[completed]** - Development of carriage requirements for ECDIS **Status:[completed]** - New routeing measures and mandatory ship reporting systems, including associated protective measures for PSSAs **Status: ongoing**

Strategic Directions (SDs) (A.989(25))				High-level Actions (HLAs)		Planned outputs for 2008-2009	
							- Review of COLREGs regarding the right of way of vessels over pleasure craft **Status: [completed]**
						5.2.4.2	New or amended non-mandatory IMO instruments (MSC): - Amendments to the General Provisions on Ships' Routeing **Status: [completed]** - Code of conduct during demonstrations/campaigns against ships on high seas **Status: ongoing** - Guidance on interpretation of UNCLOS provisions *vis-à-vis* IMO instruments **Status: ongoing** - Guidelines on the layout and ergonomic design of safety centres on passenger ships **Status: ongoing** - Improved safety of pilot transfer arrangements **Status: ongoing** - Measures to minimize incorrect data transmissions by AIS equipment **Status: ongoing** - Review of vague expressions in SOLAS regulation V/22 **Status: ongoing** - Revised performance standards for IBS **Status: ongoing** - Revision of the Guidance on the application of AIS binary messages **Status: ongoing**
						5.2.4.3	Update and development of worldwide radionavigation systems (GPS, GLONASS and GALILEO) (MSC) **Status: [completed]**
						5.2.4.4	Strategic review and policy framework for e-navigation (MSC) **Status: [completed]**
CURRENTLY NOT INCLUDED							
				5….		5…..	Development of procedures for updating shipborne navigation and communication equipment **Status: ongoing**
				5….		5…..	Amendments to the Performance standards for VDR and S-VDR **Status: ongoing**

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ANNEX 18

DRAFT SN CIRCULAR

AMENDMENT TO GUIDELINES FOR THE PRESENTATION OF NAVIGATION-RELATED SYMBOLS, TERMS AND ABBREVIATIONS

1 The Sub-Committee on Safety of Navigation (NAV), at its fifty-fourth session (30 June to 4 July 2008), agreed on an addition to table 3 of the appendix of annex 1 of the Guidelines for the presentation of navigation-related symbols, terms and abbreviations (SN.1/Circ.243).

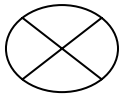
2 This amendment introduces a new symbol for the presentation of an AIS Search and Rescue Transmitter (AIS-SART) as described in the performance standards given in resolution MSC.246(83).

3 The Maritime Safety Committee, at its [eighty-fifth session (26 November to 5 December 2008)], concurred with the Sub-Committee's views, approved the amendment to the Guidelines for the presentation of navigation-related symbols, terms and abbreviations, as set out at annex.

4 Member Governments are invited to bring the annexed addition to the attention of all concerned.

APPENDIX

Addition to Table 3: AIS Target Symbols

Topic	Symbol	Description
AIS Search and Rescue Transmitter (AIS-SART)		A circle containing a cross drawn with solid lines.