



SUB-COMMITTEE ON DANGEROUS
GOODS, SOLID CARGOES AND
CONTAINERS
12th session
Agenda item 19

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REPORT TO THE MARITIME SAFETY COMMITTEE

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1 GENERAL

1.1 The Sub-Committee held its twelfth session from 17 to 21 September 2007 under the chairmanship of Mrs. Olga P. Lefèvre (France). The Vice-Chairman, Captain Juan P. Heusser (Chile), was also present.

1.2 The session was attended by delegations from the following Member States:

ANGOLA	LIBERIA
ARGENTINA	MALAYSIA
AUSTRALIA	MARSHALL ISLANDS
BAHAMAS	MEXICO
BELGIUM	MOROCCO
BOLIVIA	NETHERLANDS
BRAZIL	NEW ZEALAND
CANADA	NIGERIA
CHILE	NORWAY
CHINA	PANAMA
COLOMBIA	PAPUA NEW GUINEA
CÔTE D'IVOIRE	PERU
CUBA	PHILIPPINES
CYPRUS	POLAND
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA	PORTUGAL
DENMARK	REPUBLIC OF KOREA
DOMINICAN REPUBLIC	RUSSIAN FEDERATION
ECUADOR	SAUDI ARABIA
EGYPT	SINGAPORE
ESTONIA	SOUTH AFRICA
FINLAND	SPAIN
FRANCE	SWEDEN
GERMANY	SWITZERLAND
GREECE	THAILAND
INDONESIA	TURKEY
IRAN (ISLAMIC REPUBLIC OF)	TUVALU
ISRAEL	UKRAINE
ITALY	UNITED KINGDOM
JAPAN	UNITED STATES
KENYA	URUGUAY
LATVIA	VANUATU
	VENEZUELA

the following Associate Member of IMO:

HONG KONG, CHINA

and the following State not Member of IMO:

COOK ISLANDS

1.3 The session was also attended by a representative from the following United Nations specialized agency:

INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)

observers from the following intergovernmental organizations:

EUROPEAN COMMISSION (EC)

MARITIME ORGANISATION FOR WEST AND CENTRAL AFRICA (MOWCA)

and by observers from the following non-governmental organizations in consultative status:

INTERNATIONAL CHAMBER OF SHIPPING (ICS)

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

INTERNATIONAL UNION OF MARINE INSURANCE (IUMI)

INTERNATIONAL CONFEDERATION OF FREE TRADE UNIONS (ICFTU)

BIMCO

INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES (IACS)

ICHCA INTERNATIONAL

EUROPEAN CHEMICAL INDUSTRY COUNCIL (CEFIC)

OIL COMPANIES INTERNATIONAL MARINE FORUM (OCIMF)

INSTITUTE OF INTERNATIONAL CONTAINER LESSORS (IICL)

INTERNATIONAL FEDERATION OF SHIPMASTERS' ASSOCIATIONS (IFSMA)

INTERNATIONAL ROAD TRANSPORT UNION (IRU)

DANGEROUS GOODS ADVISORY COUNCIL (DGAC)

INTERNATIONAL ASSOCIATION OF DRY CARGO SHIPOWNERS

(INTERCARGO)

THE INSTITUTE OF MARINE ENGINEERING, SCIENCE AND TECHNOLOGY

(IMarEST)

WORLD NUCLEAR TRANSPORT INSTITUTE (WNTI)

INTERNATIONAL BULK TERMINALS ASSOCIATION (IBTA)

VESSEL OPERATORS HAZARDOUS MATERIALS ASSOCIATION, INC.

(VOHMA)

Opening address

1.4 In welcoming participants, Mr. A. Petrov, Senior Deputy Director, Sub-Division for Marine Technology and Cargoes, observed, on behalf of the Secretary-General, that holding the session at the Central Hall, Westminster, while the IMO Headquarters building is undergoing refurbishment, would be a challenge to which the delegates would hopefully rise with a sense of good will and humour.

The Senior Deputy Director drew the Sub-Committee's attention to the theme for this year's World Maritime Day: **IMO's response to current environmental challenges**. He pointed out that this theme had provided the Organization with an excellent opportunity to increase awareness of the threat to the environment stemming from shipping operations and, by taking appropriate and preventative and, where necessary, remedial action, to show that the marine sector does care about it and is, indeed, already at the forefront of that challenge. He emphasized that the Sub-Committee's contribution to the protection of the marine environment – by permanently enhancing the safe carriage of cargoes through various measures,

thereby reducing the loss of cargoes and preventing accidental pollution – was duly appreciated and should continue unabated.

With regard to items of significance on the agenda, the Senior Deputy Director, referring to amendments to the IMDG Code noted with satisfaction the progress made by the Sub-Committee and its Group in harmonizing the provisions of the IMDG Code with those of the UN Recommendations on the Transport of Dangerous Goods. In this context he stressed that, while the harmonization exercise is important for multi-modal transport and the efficiency of world trade, it was equally important not to lose sight of the unique and specific requirements pertaining to the carriage of dangerous goods by sea. He, therefore, urged prudence and maximum care when preparing subsequent amendments to the IMDG Code.

Concerning the subject of reports received from Member States on inspection programmes for cargo transport units carrying dangerous goods, the Senior Deputy Director noted that there still remained a lack of general compliance with the applicable IMO standards and urged Member States to submit reports on inspection programmes for cargo transport units carrying dangerous goods so that a better picture of such lack of compliance may be established and appropriate actions taken. He further reiterated that a lack of compliance with the relevant provisions governing the general carriage of cargoes and dangerous cargoes in particular, could result in serious repercussions which Member States and industry, alike, could not afford to let happen.

Turning to the finalization of the mandatory BC Code, the Senior Deputy Director referred to the identification of mandatory and recommendatory parts thereof – an exercise, which will lead to the adoption of appropriate amendments to chapters VI and VII of SOLAS to make the Code obligatory and stated that in turn the expectation is that the mandatory status of the BC Code will, in due course, contribute to the enhancement of the safe, secure and efficient carriage of the solid bulk cargoes.

With respect to the work on guidance on providing safe working conditions for securing of containers, the Senior Deputy Director noted that the work, which will help to identify where improvements should, and can, be made in the design and operation of containerships, to the benefit of the safety of both shore workers and ship's crew, will result in revised guidelines for the preparation of the cargo securing manual that will ensure that cargo securing manuals cover all relevant aspects of cargo stowage and securing and provide a uniform approach to their preparation, layout and content as well as ensuring that securing devices meet acceptable functional and strength criteria applicable to the ship and its cargo.

The Senior Deputy Director referred to other important issues on the agenda, such as the Review of the SPS Code; Application of requirements for dangerous goods in packaged form in SOLAS and the 2000 HSC Code; casualty and incident reports and analysis; extension of the BLU Code to include grain; guidance on protective clothing; and the form and procedure for approval of the Cargo Securing Manual; all of which deserve meticulous and in-depth consideration and, noting the good progress made intersessionally, thanked correspondence groups, especially their co-ordinators and all the participating Governments and organizations, for providing their expertise, time and other resources.

On additional issues of a more general nature, the Senior Deputy Director referred to security at IMO meetings and stressed that complacency about security was not an option, and no compromise could be made on this critical issue.

Referring to the Voluntary IMO Member State Audit Scheme, the Senior Deputy Director reminded delegates that putting the scheme on a strong basis is one of the Organization's top priorities for this and the years to come and, once again, the Secretary-General seeks the support and co-operation of anyone in a position to contribute to its wide and effective implementation. He then informed delegates that audits of Member States commenced last September and to date 14 had been completed and from all indications, the process has been successful, with all the Member States audited so far having accepted the outcome of the audits. A total of 34 Member States had so far volunteered to be audited and, while encouraging all remaining Member States to consider offering themselves for audit, those that intend to do so were invited to notify the Organization as soon as possible; this will facilitate the planning of audits to be conducted during the remaining months of this and the next biennium.

Chairman's remarks

1.5 The Chairman, in thanking the Senior Deputy Director, stated that the Secretary-General's words of encouragement as well as the advice and requests would be given every consideration in the deliberation of the Sub-Committee.

Adoption of the agenda and related matters

1.6 The Sub-Committee adopted the agenda (DSC 12/1/Rev.1 and DSC 12/1/Rev.1/Corr.1) and a provisional timetable (DSC 12/1/1/Add.1), as amended, for guidance during the session. The agenda, as adopted, with a list of documents considered under each agenda item, is set out in document DSC 12/INF.10.

1.7 The Sub-Committee's decisions on the establishment of working and drafting groups are reflected under sections of this report covering corresponding agenda items.

2 DECISIONS OF OTHER IMO BODIES

2.1 The Sub-Committee noted the decisions and comments pertaining to its work made by MEPC 55, MSC 82, FP 51, DE 50, FAL 34, BLG 11, SLF 50, MEPC 56 and NAV 53, as reported in documents DSC 12/2 and DSC 12/2/1, and took them into account in its deliberations when dealing with relevant agenda items.

3 AMENDMENTS TO THE IMDG CODE AND SUPPLEMENTS, INCLUDING HARMONIZATION OF THE IMDG CODE WITH THE UN RECOMMENDATIONS ON THE TRANSPORT OF DANGEROUS GOODS

3.1 The Sub-Committee noted that sub-items .1 and .2 of this agenda item, concerning respectively the harmonization of the IMDG Code with the UN Recommendations on the Transport of Dangerous Goods, and amendments to the IMDG Code and supplements were closely associated with each other and decided to consider the submissions related to these two sub-items together.

REPORT OF THE EDITORIAL AND TECHNICAL GROUP

3.2 The Sub-Committee approved, in general, the report of the Editorial and Technical Group on its session, which was held from 28 May to 1 June 2007, and took decisions on actions requested of the Sub-Committee (DSC 12/3, paragraphs 34.1 to 34.12) as indicated in the following paragraphs.

Errata and corrigenda to the IMDG Code (amendment 33-06)

3.3 The Sub-Committee approved draft errata and corrigenda to the IMDG Code, amendment 33-06, and, subject to finalization by the E&T Group on the basis of decisions taken during plenary, requested the Secretariat to issue the finalized errata and corrigenda before 1 January 2008, the date from which amendment 33-06 of the IMDG Code would attain mandatory status.

Amendments to the IMDG Code

Packing instruction LP02

3.4 The Sub-Committee, having considered the observation of the E&T Group that the text of the Note below 4.1.1 from the UN Recommendations on the Transport of Dangerous Goods should be amended to include LP02 for class 2 as this packing instruction refers to waste aerosols and noting that the UN Sub-Committee of Experts had considered the outcomes of the E&T Group meeting at their 31st meeting from 2 to 6 July 2007 and agreed with the observation of the E&T Group, agreed to include packing instruction LP02 in the Note below 4.1.1 in the IMDG Code.

Consistency of label colouring

3.5 The Sub-Committee, having noted the observation of the E&T Group that there were some colour discrepancies between the published versions of the Code and the UN Recommendations, requested the Secretariat to take appropriate action so as to ensure consistency of labels between the published versions of the IMDG Code.

Specific provisions for the transport of excepted packages (class 7)

3.6 The Sub-Committee, having noted the consideration of the E&T Group on the intent of 1.5.1.5.1 and the group's observation that there may be potential for confusion caused by including the word "may" twice and other discrepancies in paragraph 2.7.2.4.1 as highlighted by the observer from IAEA, noted that the Secretariat anticipated attending the IAEA harmonization meeting in September 2007.

Special provisions 216, 217, 218 and 335

3.7 The Sub-Committee noted that the UN Sub-Committee of Experts had agreed to modify special provision 335 to indicate that, when free liquid is visible, the mixture should be classified under UN 3082 and further agreed to replace the term "bulk packaging" with "bulk container" in the second sentence and to insert a new third sentence to read "If free liquid is visible at the time the mixture is loaded or at the time the packaging or cargo transport unit is closed, the mixture shall be classified as UN 3082", and agreed to forward the text to the E&T Group for finalization.

Dangerous goods packed in excepted quantities

3.8 The Sub-Committee noted that the E&T Group, in considering the requirements for documentation for dangerous goods in excepted quantities noted, with the exception of one delegation, that the text of paragraph 3.5.6 of the UN Recommendations on the Transport of Dangerous Goods regarding documentation was inconsistent with the text of SOLAS

regulation VII/4 and regulation 4 of MARPOL Annex III and was not in line with the decisions made by the Sub-Committee at its ninth session (DSC 9/15, paragraph 3.9) had drafted two possible options for the text in paragraph 3.5.6.1 of document DSC 12/3, annex 4.

3.9 The Sub-Committee recalled that DSC 9 had agreed that in the interest of safety, the requirement for dangerous goods, transported in any quantities, to be documented was extremely important and any relaxation would not be suitable and that regarding the labelling and marking of packagings and cargo transport units, containing dangerous goods in any quantities, DSC 9 opined that the existing provisions in the IMDG Code were appropriate with regards to the maritime mode and it would not be prudent to permit any relaxations.

3.10 The Sub-Committee further recalled that MSC 80 endorsed the decisions of DSC 9 regarding transport of dangerous goods in limited quantities, excepted quantities and consumer quantities and, following detailed debate, during which the majority of the delegations were in favour of having a transport document for dangerous goods in excepted quantities and accepted the alternative text proposed for section 3.5.6.1, agreed to forward this text to the E&T Group for finalization and requested the secretariat to forward the decision to the UN Sub-Committee of experts.

3.11 The Sub-Committee noted the observation of the E&T Group that SOLAS regulation II-2/19.4 provided for exemptions from the document of compliance provisions for ships carrying dangerous goods in limited quantities, but that there were no provisions for dangerous goods packed in excepted quantities, and having decided that the exemption should also apply to dangerous goods in excepted quantities, forwarded the decision to the Working Group on Application of the requirements for dangerous goods in packaged form in SOLAS and the 2000 HSC Code with the instruction to prepare corresponding amendments to SOLAS and the 2000 HSC Code.

3.12 The Sub-Committee noted the view of the E&T Group that there might be a problem regarding the marking of the marine pollutant mark on cargo transport units transporting dangerous goods in excepted quantities which are marine pollutants; however, the Sub-Committee agreed not to require a marine pollutant mark on cargo transport units transporting dangerous goods in excepted quantities which are marine pollutants and forwarded this decision to the E&T Group take it into account when finalizing the draft amendment 34-08.

Title of chapter 2.9 of the IMDG Code

3.13 The Sub-Committee, noting the view of the E&T Group that the heading of chapter 2.9 would have to be consequentially amended to take account of the inclusion of environmentally hazardous substances provisions, agreed to consider the issue with consideration of document DSC 12/3/13.

Use of unpacked dry ice for cooling purposes in cargo transport units

3.14 The Sub-Committee, having noted that the E&T Group had agreed that paragraph 3 of special provision 297 should be amended to mirror the text of the UN Recommendations and that if 5.4.2.1.8 was consequentially amended to align with special provision 297 it would result in a reduction in the safety of the provision and also disharmony with the text of the UN Recommendations and the IMO/ILO/UNECE Guidelines, noted that the United Kingdom intended to submit a proposal on this issue to UNSCOE 32 and agreed to postpone discussion on the item, pending the outcome of consideration by the UN Sub-Committee.

Stowage and segregation provision for UN 3476

3.15 The Sub-Committee noted that the E&T Group, having inserted new entries, arising from amendments to the UN Recommendations, into the Dangerous Goods List, had identified additional provisions applicable to the IMDG Code and that for UN 3476 Category A or Category B stowage provisions could apply and, having agreed that Category A provisions should be applied, forwarded the decision to the E&T Group for finalization.

Provisions in the event of a class 1 incident

3.16 The Sub-Committee noted that the E&T Group, having considered a proposal to add a new general clause related to provisions in the event of a class 1 incident noted that:

- .1 the proposal should be amended to include a wider range of potential hazards;
- .2 the proposal may also be applicable to other classes; and
- .3 the sitting could not readily be agreed upon,

and that in the light of the above observations, the E&T Group had replaced the word “shall” with “should” in the proposed text and placed the proposal in square brackets.

3.17 The Sub-Committee agreed in principle that the proposal should apply to all classes of dangerous goods and forwarded it to the E&T Group for finalization.

Approval of draft amendment 34-08 to the IMDG Code

3.18 The Sub-Committee considered the request of the group (DSC 12/3, paragraph 34.9) to approve draft amendment 34-08 to the IMDG Code and took decisions as detailed in paragraphs 3.56 to 3.58.

Highlighting amendments between versions of the IMDG Code

3.19 The Sub-Committee, noting that as a result of the change in formatting of the IMDG Code to a bound version it is no longer possible to readily identify amendments to provisions between versions of the IMDG Code, requested the Secretariat to investigate options to highlight the amendments to provisions between versions of the IMDG Code.

Amendments to the Revised EmS Guide

3.20 The Sub-Committee agreed to the draft MSC circular on Carriage of dangerous goods, Amendments to the Revised Emergency Response Procedures for Ships Carrying Dangerous Goods (EmS Guide), as set out in annex 1, for submission to MSC 84 for approval.

UN RECOMMENDATIONS ON THE TRANSPORT OF DANGEROUS GOODS**Outcome of UNSCOE 31**

3.21 The Sub-Committee noted that the UN Sub-Committee of Experts met from 2 to 6 July 2007 and that:

- .1 modal regulators were encouraged to immediately implement changes to Packing Instruction P804 (DSC 12/3/5, paragraph 2);
- .2 the Sub-Committee agreed on a transitional period for the application of the new criteria for the drop test on IBCs (DSC 12/3/5 paragraphs 3 and 4);
- .3 the Sub-Committee recognized that chapter 2.9 would benefit from improved presentation but took no action at that time (DSC 12/3/5 paragraph 5);
- .4 the Sub-Committee invited comments and a formal paper to be submitted to the next session to consider providing specific information related to fumigated transport units and transport units containing dry ice as a refrigerant; and
- .5 regarding the outcomes of the E&T Group meeting in May/June this year, the Sub-Committee agreed with the recommendations of the group (DSC 12/3/5, paragraphs 7 to 14),

and having considered the relevant outcome of the UNSCOE 31, as outlined above, agreed in principle with those decisions and instructed the E&T Group to incorporate the outstanding proposals in the draft amendment 34-08.

Outcome of the UNSCOE 31 Working Group on limited quantities (multimodal harmonization)

3.22 The Sub-Committee, having considered a document by the Secretariat (DSC 12/INF.9), reporting on the outcomes of the Working Group on limited quantities (multimodal harmonization) established by the UN Sub-Committee of Experts to analyse the provisions applicable to different modes of transport, which agreed that a wide consultation of the modal organizations concerned would be necessary and requested feedback from relevant international organizations to facilitate the development of further proposals at the next session, and, having considered the outcome of the discussion on the issue by the informal group, agreed:

- .1 with the proposal to combine the provisions applicable to limited quantities and consumer commodities. The result would be to delete paragraph 3.4.7 which removes the exemption for retail goods;
- .2 that the diamond shaped mark with no numbers that has been suggested by the UN TDG, given in page 4 of DSC 12/INF.9, was acceptable for the sea mode in order to identify packages containing limited quantities;
- .3 that the same mark as above but 250X250mm would also be required for marking CTUs containing limited quantities; and
- .4 that full documentation, as required by chapter 5.4 of the IMDG Code, would be necessary,

and further agreed to refer the above to the UNSCOE, while, with regard to the need for the Marine Pollutant Mark on CTUs containing limited quantities, noted an opinion that the Marine Pollutant Mark should not be necessary, but the information on Marine Pollutant in CTUs should be readily available.

Presentation of chapters 2.9 and 2.10 of the IMDG Code

3.23 The Sub-Committee, having considered a proposal by the United Kingdom (DSC 12/3/13) to present chapter 2.9 of the IMDG Code in a more user-friendly way and to make some editorial amendments to chapters 2.9 and 2.10:

- .1 did not support the proposed changes to the title of chapter 2.9, nor did it support the proposed changes to notes 1 and 2;
- .2 adopted the text of chapter 2.9 as drafted by the E&T Group and deleted the text in square brackets;
- .3 did not agree to insert special provision SP 179 as paragraph 2.9.2.1;
- .4 did not support the proposals to amend chapter 2.10, with the exception of the footnote; and
- .5 referred the footnote to the E&T Group for further consideration on where it should be placed for finalization.

However, the Sub-Committee noted that SP 179 was not assigned to any UN number in the IMDG Code and, therefore, instructed the E&T Group to consider the issue and to make the appropriate corrections to the Code.

MANDATORY TRAINING

3.24 The Sub-Committee recalled that MSC 82 considered document MSC 82/13/2 (United Kingdom) and a proposal for mandatory IMDG Code training for shore side personnel, noted that the proposal had merit and instructed the Sub-Committee to look further into the proposal, bearing in mind that making the recommendatory training provisions in the IMDG Code might not be the only solution and, therefore, in addition, explore other avenues, that would result in a better application of, and compliance with, the provisions of the Code ashore.

3.25 The Sub-Committee, having considered a document by the United Kingdom (DSC 12/3/3) on the issue of non-compliant dangerous goods cargoes being presented for carriage by sea, which observed that such cargoes may originate many miles from a marine environment due to a lack of awareness of the unique hazards of the ship environment and the requirements of the IMDG Code and a document by ICHCA (DSC 12/3/17) observing that there is widespread concern regarding the transport of dangerous goods by sea, that unilateral initiatives would not bring about a sustained improvement in the situation and that a legal requirement for suitable training of shore side staff should be reflected in the IMDG Code, agreed, in principle, that shore side staff should undergo appropriate training if they were to be applying the provisions of the IMDG Code and, furthermore, noted that a number of Member Governments had already mandated such training requirements in their national regulations.

3.26 While considering issues surrounding the mandatory application of training requirements for shore side personnel, some delegations were of the view that placing the complete text of the IMDG Code, in Print Document Format only, would assist in better accessibility and promotion of the provisions of the Code, noting that a similar provision existed whereby the complete text

of the UN Recommendations on the transport of dangerous goods was freely accessible and downloadable from the internet. However, the Sub-Committee recognized that that was not an issue which was under the purview of this Sub-Committee and invited the Committee to look into the possibility of making available the complete text of the IMDG Code freely downloadable from the internet.

3.27 In the course of considering how the provisions could be implemented, it was noted that national regulations already mandate compliance with the IMDG Code and perhaps these could be extended by analogy to mandatory training. It was also noted that several training packages are already available and that although training organizations would need some time to prepare for a mandatory requirement, this need not be too difficult.

3.28 Having deliberated the matter at length, the Sub-Committee agreed to making the provisions of the IMDG Code on training of shore-side personnel handling dangerous goods mandatory; forwarded the proposal set out in the annex to document DSC 12/3/3 (United Kingdom), as amended by the Sub-Committee and the comments made in plenary, to the E&T Group for finalization and inclusion in amendment 34-08 to the IMDG Code; and agreed that it had adequately considered the issue of alternatives to mandating the requirement for training of shore side personnel in the IMDG Code.

3.29 The Sub-Committee noted that even though there was a majority support in principle for the proposals, some delegations could not support the proposals, as, in their view, IMO did not have the jurisdiction to mandate proposals relevant to shore-side and as such reserved their position.

3.30 The delegation of Panama expressed the view that Panama is aware of the need for IMDG Code training of shore-side personnel in the interest of safety of shipboard personnel and the marine environment. That delegation expressed its appreciation for the documents submitted and for the information contained therein. However, the proposal to provide for mandatory training of shore-side personnel raised concerns that would have to be dealt with before a final decision could be reached on the subject, which is the competence of the Committee. In that delegation's view, the proposal should address various aspects relating to implementation within a maritime context as well as to IMO's mandate. The proposed certification, verification and auditing seem to be beyond the remit of maritime administrations, and may even be considered to be more relevant to other organizations such as ILO. Particular attention should be paid both to the proposals to make the IMDG Code freely available on the IMO website, and to the impact that this may have on IMO's Printing Fund. The matter should first be considered by IMO's relevant bodies. Before discussing the subject of mandatory IMDG Code training requirements and a date of entry when they would come into force, the Sub-Committee should consider that it was necessary to deal with, *inter alia*, the issues mentioned above and the technical co-operation requirements for an appropriate implementation that will allow for an improvement in safety, but not as a measure to determine the levels of liability and insurance relating to cargo.

3.31 The delegation of Cyprus shared the concerns and the intent of document DSC 12/3/3 and believed that training is necessary and essential to the improvement of safety and the reduction of marine casualties. That delegation added that Cyprus was inclined to believe that by mandating the training of shore-based personnel one might be entering the competence of other National Authorities than the Maritime Administration of a Member State. In that delegation's opinion, Cyprus observed that the problem identified in the paper, was a problem of awareness and could be easily rectified via a circular to all shore-based personnel for the provisions of the IMDG code in a non-mandatory manner. Regarding the proposal to include the IMDG Code on the website

of the IMO for free downloads, the delegation stated that selling IMO publications represented a financial lifeline not only to the Technical Co-operation Fund but also to the Organization as a whole. That delegation reserved the right to raise this issue at other bodies of the Organization including the Legal Committee and the Council.

3.32 The Chinese delegation, while supporting in principle the amendments concerning the mandatory training for shore side personnel in chapter 1.3 of the IMDG Code, was of the view that the training of shore side personnel involves co-ordination with different organizations and authorities and that Administrations need more time for preparation and co-ordination of the mandatory application of provisions. Therefore, the Chinese delegation proposed that mandatory training should not be included in amendment 34-08 to the IMDG Code.

MARINE POLLUTANTS

Requirements for declaration of Proper Shipping Name as distinct from Correct Technical Name

3.33 The Sub-Committee, having considered a proposal by Germany (DSC 12/3/7) to make editorial amendments to chapter 3 of the IMDG Code to clarify the requirements of a “proper shipping name” as required by the IMDG Code as distinct from the “correct technical name” as required by MARPOL Annex III, supported the proposal in principle and forwarded it to the E&T Group for finalization, taking into account the comments of the Sub-Committee.

DSC circular on Marine Pollutants

3.34 On the basis of a draft DSC circular by the United Kingdom (DSC 12/3/14) proposing a method to address how the IMDG Code (amendment 34-08) should provide for marine pollutant issues from 1 January 2008 to 1 January 2009 during the voluntary application period, the Sub-Committee approved DSC.1/Circ.54 on Information on the amendments to the marine pollutant provisions, subject to editorial improvement and alignment with MARPOL Annex III, where necessary, by the E&T Group, and invited the MSC and the MEPC to endorse the course of action taken by the Sub-Committee.

DSC circular on Guidance on the application of chapter 2.10 (Marine Pollutants) of the International Maritime Dangerous Goods (IMDG) Code (amendment 33-06)

3.35 Having considered a draft DSC circular prepared by the Secretariat, in consultation with the Chairman, (DSC 12/3/18) proposing a method for addressing the need to meet the requirements of chapter 2.10 of the IMDG Code, the Sub-Committee approved DSC.1/Circ.55 on Guidance on the application of chapter 2.10 (Marine Pollutants) of the International Maritime Dangerous Goods (IMDG) Code (amendment 33-06) subject to editorial improvement by the E&T Group, and invited the MSC and MEPC to endorse the course of action taken by the Sub-Committee.

SEGREGATION OF PERSULPHATES

3.36 The Sub-Committee, having considered documents by Germany (DSC 12/3/8) and the United States (DSC 12/3/15 and DSC 12/INF.8) regarding the segregation of persulphates and supported the intent of the proposals but had mixed views on which proposals were clearer and should therefore be adopted.

3.37 Following the debate, during which the delegation of Germany withdrew its proposal to amend column 16 for UN 3215 and its proposal to amend column 17 for UN 3215 and instead proposed a special provision assigned to UN 3215 taking care of the issue, the Sub-Committee agreed to forward the amended proposals to the E&T Group for finalization in light of the aforementioned comments.

MISCELLANEOUS PROPOSALS

3.38 The Sub-Committee considered other proposals relevant to the carriage of dangerous goods as detailed in the following paragraphs.

Guidance on providing additional information in the transport/shipping document

3.39 The Sub-Committee's attention was drawn to the relevant decision of MSC 82 which, following consideration of documents MSC 82/13/1 (United Kingdom) and MSC 82/13/3 (WNTI) instructed the Sub-Committee to:

- .1 prepare suitable amendments to the Code, which will avoid duplication of information already provided; and
- .2 to develop appropriate guidance for all classes of dangerous goods, in the form of amendments to the IMDG Code, on providing additional information in the transport/shipment document to ensure, amongst others, that additional information does not clutter the documents, thereby suppressing safety-related information.

3.40 Having considered the above decision of MSC 82, the Sub-Committee agreed to forward the documents to the E&T Group for further consideration and advice to DSC 13.

Exclusion of Tampico fibre from the IMDG Code

3.41 Having recalled that DSC 10 considered a proposal by Mexico (DSC 10/3/2) to exclude Tampico fibre from the IMDG Code and that the proposal was not supported on the basis that no supporting test report was provided, the Sub-Committee considered document DSC 12/3/2 (Mexico) containing the same proposal, accompanied by a test report, endorsed the proposal and instructed the E&T Group to finalize the matter, taking into account the need to amend SP299 following support of the Sub-Committee for option 1 proposed by Mexico.

Removal of practical obstacles in the use of exemptions

3.42 The Sub-Committee, having recalled that DSC 10 had considered a proposal by CEFIC (DSC 10/3/7) to remove the practical obstacles in the use of exemptions, to improve through voyage awareness of their existence and that the proposal was not adopted, whilst, nevertheless, Member Governments were urged to make best possible use of the available mechanisms to promulgate information, considered document DSC 12/3/4 (CEFIC) which observed that no significant improvements had been made and proposed that section 7.9.1.1 of the IMDG Code should be amended so that recipients of exemptions obtained formal acknowledgement of them from the competent authorities of the flag State and the port States of arrival and departure.

3.43 Following consideration of the proposal of CEFIC, the Sub-Committee expressed sympathy with the views of CEFIC and acknowledged that it was necessary to have an effective

notification process; however, the Sub-Committee, having also noted that there could be problems with positive acknowledgement procedures, tacit acknowledgement procedures and with tripartite agreements, forwarded the document to the E&T Group for further consideration and advice to DSC 13.

Updating of the Guidelines on Packing of Cargo Transport Units

3.44 The Sub-Committee considered document DSC 12/3/6 (Germany) and noted that although the IMDG Code is updated every two years the Guidelines on Packing of Cargo Transport Units have not been amended since the adoption of amendment 31-02 of the IMDG Code and that the Guidelines may benefit from improvements.

3.45 The Sub-Committee recalled that MSC 76 had approved MSC/Circ.787 on IMO/ILO/UNECE Guidelines for Packing of Cargo Transport Units, which were prepared in co-operation with the UNECE Working Party on Combined Transport (WP.24), and that these Guidelines were subsequently endorsed by the Inland Transport Committee of the UNECE in January 1997 and by the Governing Body of the ILO in March 1997, agreed that the proposal of Germany had merit and as such, prepared a justification for a new work programme item on the review of the aforementioned resolution for consideration by the Committee, set out in annex 2.

Fumigated containers

3.46 The Sub-Committee considered a proposal by Belgium (DSC 12/3/9), which observed that consideration of the transport of Container Transport Units (CTUs) under fumigation is growing substantially, and so is the demand for clarity in respect of the documentation as required under paragraph 5.4.4.2 and that the international shipping community and the local and/or port authorities understand that whenever reference is made to "Transport Document" by definition, this refers to the Multimodal Dangerous Goods Form (MDGF) as per paragraph 5.4.5 of the IMDG Code.

3.47 The Sub-Committee noted the view of Belgium that the MDGF is not the appropriate document for shipment of fumigated containers, containing no dangerous goods within the scope of the IMDG code and that the information required in this dangerous goods transport document specified in paragraph 5.4.1.6 on Certification and paragraph 5.4.2 on Container/vehicle packing certificate should not apply to fumigated containers which do not contain dangerous goods.

3.48 Furthermore, the Sub-Committee noted the view of Belgium that, because the aforementioned repeatedly results in those fumigated CTUs, containing no dangerous goods, being put on hold unnecessarily, which impedes commerce and also results in undue additional risks to already congested terminals and ports where they are held, introducing a more generic description commonly used throughout the shipping industry could prove beneficial and reduce present burden, therefore an alternative for the wording "transport document" is "shipping document"; defined as "a document listing the items in a shipment, and showing other supply and transportation information that is required by all parties concerned in the movement of material".

3.49 The Sub-Committee had mixed views on the effectiveness of the proposals by Belgium and, noting that UNSCOE 32 was going to consider the matter as it had a multimodal transport dimension, invited Belgium to submit a revised proposal to DSC 13, taking into account the relevant outcomes of UNSCOE 32.

UN 3028, Nickel-Hydride portable accumulators

3.50 The Sub-Committee, having considered a proposal by Germany (DSC 12/6/8) on the investigation report into the explosion and fire on board CMV **Punjab Senator** resulting from the carriage conditions for two containers filled with rechargeable batteries and a consequential proposal (DSC 12/3/10) that UN 3028 should be subject to a new special provision applying the regulations only when transported by sea, subject to certain conditions, noted that whilst 60°C could not be considered a cool temperature, it was possible that containerised cargoes could be subjected to temperatures in excess of 60°C when exposed to heat sources such as solar radiation in tropical climates.

3.51 The Sub-Committee further noted that the range of cargoes that might be adversely affected by such heat sources and high temperatures could be quite wide and include a number of cargoes that were not classified as dangerous goods and that, therefore, it might not be appropriate to amend the IMDG Code provisions only in light of the unfortunate experience with the CMV **Punjab Senator**.

3.52 The Sub-Committee, in considering how to progress the matter, noted that similar discussions were currently ongoing at the UNSCOE and that, whilst it might be premature to issue a DSC Circular before the outcomes of the considerations at the UNSCOE were completed, it was appropriate to draw the attention of the Committee to the potentially serious consequences of exposing some containerized cargoes to elevated heat sources.

INF Code

3.53 The Sub-Committee, having considered a proposal by France (DSC 12/3/11) to reinstate a link to the INF Code in the IMDG Code directing users of the Code to the INF Code for those UN numbers under which INF Cargoes should be transported, agreed with the proposal and forwarded it to the E&T Group for finalization.

Stowage of goods of class 3

3.54 The Sub-Committee, having considered a submission by France (DSC 12/3/12), which observed that paragraphs 7.1.9.2 and 7.1.9.6 of the IMDG Code strictly apply particular stowage conditions to flammable substances with a flashpoint of 23°C c.c. of packing group III and that perhaps the wording should be amended so that the provisions are only applicable to those substances with a flashpoint less than 23°C c.c., agreed with the proposal and forwarded it to the E&T Group for finalization and inclusion in amendment (34-08) to the IMDG Code.

Packing Instruction P001

3.55 The Sub-Committee, having considered a proposal by the Republic of Korea (DSC 12/3/16), observed that the requirements of PP1 in packing instruction P001 for UN Nos. 1133, 1210, 1263 and 1866 are not similar to the requirements of paragraphs 3.4.2.1 and 3.4.2.2 of the IMDG Code and that PP1 in packing instruction P001 should not be deleted to avoid confusion. Having noted that this provision applied not just to the sea mode, the Sub-Committee was of the opinion that if an amendment were necessary it should also be raised at the UNSCOE.

Transport of peat in bulk

3.56 The Sub-Committee, having considered a report by Sweden (DSC 12/6/3) on an incident whereby a lorry load of peat in bulk that was not documented as a dangerous good was found glowing and smouldering *en route*, noted the information provided and invited Sweden to present further information to the Sub-Committee on measures that could be taken to prevent future incidents and how to provide information on such measures to the maritime community.

DRAFT AMENDMENT 34-08 TO THE IMDG CODE

3.57 On the basis of document DSC 12/3, annex 4, the Sub-Committee agreed to amendment 34-08 to the IMDG Code and authorized the E&T Group to finalize all the agreed texts and prepare a final text of draft amendment 34-08 to the IMDG Code taking into account the agreed in principle proposals, relevant decisions of the MSC and the MEPC and comments made during plenary. The Sub-Committee requested the Secretary-General to circulate them in accordance with SOLAS article VIII, for consideration and subsequent adoption at MSC 84.

3.58 In that context, the Sub-Committee recalled that MSC 75 (MSC 75/24, paragraph 7.36) approved the proposed procedure for the adoption of future amendments to the IMDG Code, including the proposed general authorization for circulation of the proposed amendments, which provides for the following:

- .1 amendments to the mandatory IMDG Code should be adopted at two-year intervals so that they may enter into force on the 1st January of even years, e.g., 1 January 2006, 1 January 2008 and so on;
- .2 the DSC Sub-Committee, at a session which takes place in an odd year, prepares and agrees to proposed amendments developed on the basis of the amendments approved by the UN Committee of Experts on the Transport of Dangerous Goods and those proposed by Member Governments;
- .3 the proposed amendments to the IMDG Code, so agreed by the DSC Sub-Committee, are circulated by the Secretary-General to all IMO Members and Contracting Governments to SOLAS in accordance with SOLAS article VIII(b)(i) for consideration and adoption by the expanded MSC at its first session thereafter;
- .4 proposed amendments, as may be adopted by the expanded MSC in accordance with SOLAS article VIII(vi)(2)(bb), will enter into force 18 months later, i.e., on the 1st January of even years;
- .5 one year prior to the date of entry into force of new amendments, Governments are invited to apply them on a voluntary basis. During that period, the carriage of dangerous goods in compliance with either the IMDG Code in force or the Code incorporating the new amendments should be acceptable; and
- .6 the MSC resolution on adoption of new amendments to the IMDG Code should include, in an operative paragraph, a clause on the above-mentioned treatment of the amended Code referred to in subparagraph .5.

3.59 In agreeing to the above amendments to the IMDG Code, the Sub-Committee authorized the Secretariat, when preparing the final texts thereof, to effect any editorial corrections that might be identified.

FUTURE SESSIONS OF THE E&T GROUP

3.60 The Sub-Committee noted that this issue would be dealt with under agenda item 16 (Work programme and agenda for DSC 13).

4 AMENDMENTS TO THE BC CODE, INCLUDING EVALUATION OF PROPERTIES OF SOLID BULK CARGOES

General

4.1 The Sub-Committee considered proposals submitted under this agenda item and relevant parts of document DSC 12/5 (Japan) as detailed in the following paragraphs.

Report of the working group established at DSC 11

4.2 The Sub-Committee recalled that at DSC 11 it had established the Working Group on the Amendments to the BC Code and its Mandatory Application, with the terms of reference outlined in paragraph 5.8 of document DSC 11/19 and that on the basis of the oral report of the chairman of the working group it had established the Correspondence Group on Amendments to the BC Code and its Mandatory Application, under the joint co-ordination of Australia and Japan, with the terms of reference indicated in paragraph 5.12 of document DSC 11/19. The Sub-Committee considered that the actions requested had been overtaken by the subsequent work of the correspondence group and approved, in general, those parts of the report related to agenda item 4.

Report of the correspondence group

4.3 The Sub-Committee following consideration of the 7 parts of the report of the correspondence group (DSC 12/4/4, DSC 12/4/5, DSC 12/4/6, DSC 12/4/7, DSC 12/4/8, DSC 12/4/9 and DSC 12/4/10) and relevant documents submitted to the session (DSC 12/4/17, DSC 12/4/18 and DSC 12/5), approved the report, in general, and took decisions as detailed below:

- .1 endorsed the view of the working group on the contents and supplements of the BC Code, removed the square brackets from the title of Section 1, and, having noted that Section 2 was also applicable to the carriage of solid bulk cargoes, forwarded the amended title to the working group for improvement, as appropriate (DSC 12/4/5, paragraphs 13, 14 and 18.1 and annex 3);
- .2 agreed that tripartite agreements are appropriate in the case of dangerous solid bulk cargoes not listed in the BC Code (DSC 12/4/5, paragraphs 6 to 8);
- .3 regarding non-dangerous solid bulk cargoes not listed in the BC Code, agreed that the possibility of having tripartite agreements should be further explored and, furthermore, noted the need to identify those cargoes; that in the absence of tripartite agreements, there might be safety concerns regarding MHB; and that

entities concerned need to be made aware when the tripartite agreements are required (DSC 12/4/5, paragraphs 6 to 8);

- .4 noted that, although there would be an increased administrative burden, it might be necessary to include all solid bulk cargoes not listed in the BC Code until the majority of the hazardous cargoes had been identified. The Sub-Committee further noted the need for consistency in determinations and forwarded the matter to the working group for consideration and proposals on a way ahead (DSC 12/4/5, paragraphs 6 to 8);
- .5 removed the square brackets and decided to retain the text in sub-section 1.7.22 (DSC 12/4/5, annex 5);
- .6 deleted the text of sub-section 2.1.1 (DSC 12/4/5, annex 5);
- .7 endorsed the view of the correspondence group that the word “effectively” should be retained in sub-section 3.4.2 (DSC 12/4/5, paragraph 23);
- .8 noted the lack of definition of “effective ventilation” (DSC 12/4/5, paragraph 24);
- .9 agreed to the revised text of sub-section 3.5.5 with the exception of the words “are not sufficiently rarefied by air”, which were forwarded to the working group for consideration and improvement (DSC 12/4/5, paragraph 26);
- .10 forwarded the texts in the FOREWORD and sections 1 to 3 to the working group to include in the text of the mandatory BC Code, taking into account relevant proposals by Japan (DSC 12/4/5, paragraph 31.11);
- .11 forwarded the draft form for cargo information for solid bulk cargoes to the working group for finalization (DSC 12/4/6, paragraph 2 and annex 1);
- .12 considered that it might be useful to retain the list of standard sampling procedures as an example and forwarded it to the working group for further consideration (DSC 12/4/6, paragraph 6);
- .13 noted the oral addition of paragraph 24.2*bis* to DSC 12/4/6 regarding the general requirement for trimming in sub-section 5.1.1 and forwarded it to the working group for further consideration (DSC 12/4/6, paragraphs 8 to 10);
- .14 considered that it was necessary to retain some text indicating to the master that trimming might be necessary and forwarded the related text to the working group for further consideration (DSC 12/4/6, paragraph 10);
- .15 forwarded the texts of sub-section 5.12 to the working group for finalization (DSC 12/4/6, paragraph 12);
- .16 forwarded the texts of sub-section 5.4.4 to the working group to finalize (DSC 12/4/6, paragraph 13);

- .17 considered that it was necessary to maintain a reference to appendix 2 on Laboratory test procedures, associated apparatus and standards and decided to retain the text of sub-section 8.2 (DSC 12/4/6, paragraph 20);
- .18 instructed the working group to finalize the text of sections 4 to 8, based on the discussions in plenary (DSC 12/4/6, paragraph 24.7);
- .19 retained sub-sections 9.2.2.1 to 9.2.2.8 (DSC 12/4/7, paragraph 3);
- .20 considered the issue and agreed that the Sub-Committee had previously agreed to the text in sub-section 11 (DSC 12/4/7, paragraph 9);
- .21 forwarded the texts in sections 9 to 13 to the working group to finalize, noting that the working group may need to further consider the appropriateness of the reference to the IMDG Code in sub-section 9.3.4 (DSC 12/4/7, paragraph 14.3);
- .22 agreed to:
 - .1 retain the texts in square brackets in the proposed explanatory note for UN 1386 (b);
 - .2 endorse the proposed amendments to the texts in the section for DESCRIPTION in the individual schedule for SEED CAKE (non-hazardous); and
 - .3 included an explanatory note for UN 1386 (a);
- .23 endorsed the view of the group on Ilmenite Sand and forwarded the text to the working group for finalization (DSC 12/4/8, paragraph 8);
- .24 noted that Tapioca deletes oxygen, that the United States was working on a proposal based on the study of assignment of classification of cargoes for submission to DSC 13 and forwarded the matter to the working group for further consideration (DSC 12/4/8, paragraph 9);
- .25 approved the amendment to the emergency procedures for Calcium Nitrite UN 1454 and forwarded it to the working group for finalization (DSC 12/4/8, paragraphs 10 and 11);
- .26 noted the group's consideration on individual schedules for new cargoes and a proposal to change the word "discharge" to "unloading" to avoid negative connotations in the pollution context and forwarded it to the working group for finalization (DSC 12/4/8, paragraph 12);
- .27 agreed, in principle, to the texts in Description and forwarded it to the working group for finalization (DSC 12/4/8, paragraph 13 and annex 2);
- .28 agreed, in principle, to the texts in Characteristics and forwarded it to the working group for finalization (DSC 12/4/8, paragraph 14 and annex 3);

- .29 agreed, in principle, to the text in Hazard and forwarded it to the working group for finalization (DSC 12/4/8, paragraph 15 and annex 4);
- .30 agreed, in principle, to the texts in Stowage and Segregation and forwarded it to the working group for finalization (DSC 12/4/8, paragraph 17 and annex 5);
- .31 agreed to the texts on Hold cleanliness (DSC 12/4/8, paragraph 18);
- .32 agreed, in principle, to the texts in Hold cleanliness for mandatory application and forwarded it to the working group for finalization (DSC 12/4/8, paragraph 19 and annex 6);
- .33 agreed, in principle, to the texts in Weather precautions and forwarded it to the working group for finalization (DSC 12/4/8, paragraph 21 and annex 7);
- .34 considered that the texts on Loading should possibly refer to section 5 as well as section 4 and forwarded to the working group for further consideration, bearing in mind that information should not be omitted if it reduces safety (DSC 12/4/8, paragraph 22);
- .35 agreed, in principle, to the texts on Loading for mandatory application and forwarded it to the working group for finalization (DSC 12/4/8, paragraph 27 and annex 8);
- .36 approved the standard dust texts and forwarded the proposals by CEFIC to the working group for further consideration (DSC 12/4/9, paragraph 2 and DSC 12/4/17);
- .37 forwarded the proposed text on fixed gas fire extinguishing systems for Group C cargoes depending on the duration of the voyage to the working group for further consideration (DSC 12/4/9, paragraph 11);
- .38 forwarded the text on Peat Moss to the working group for further consideration (DSC 12/4/9, paragraph 18);
- .39 agreed, in principle, to the texts for Precautions and forwarded it to the working group for finalization (DSC 12/4/9, paragraph 27 and annex 12);
- .40 forwarded the texts for ventilation requirements and surface ventilation in particular to the working group to clarify which option should be adopted (DSC 12/4/9, paragraph 31);
- .41 agreed, in principle, to the texts on Ventilation, subject to the outcome of discussion on surface ventilation and forwarded it to the working group for finalization (DSC 12/4/9, paragraph 34 and annex 2);
- .42 agreed to the standard weathertightness text proposed by the correspondence group and forwarded it to the working group for finalization (DSC 12/4/10, paragraph 2);

- .43 forwarded the proposed text on temperature monitoring of ammonium nitrate based fertilizers to the working group for further clarification of the types of monitoring intended (DSC 12/4/10, paragraph 3);
- .44 endorsed the amendments to the requirements for checking the condition of Group A cargoes and forwarded them to the working group for finalization (DSC 12/4/10, paragraph 4);
- .45 agreed, in principle, to the texts on Carriage and forwarded them to the working group for finalization (DSC 12/4/10, paragraph 9 and annex 1);
- .46 adopted the text for Ferrous metal borings, shavings, turnings or cuttings UN 2793 (DSC 12/4/10, paragraph 13);
- .47 agreed to the texts on Discharge and forwarded them to the working group for finalization (DSC 12/4/10, paragraph 16 and annex 2);
- .48 agreed to the text for protection of bilge pumps and forwarded them to the working group for finalization (DSC 12/4/10, paragraph 17);
- .49 agreed to the texts on Clean up and forwarded them to the working group for finalization (DSC 12/4/10, paragraph 24 and annex 3);
- .50 agreed to the text of trimming requirements for Brown coal briquettes and forwarded it to the working group for finalization (DSC 12/4/10, paragraph 26); and
- .51 agreed, in principle, to the texts in the appendices to individual schedules, subject to the relevant decisions concerning DRI (A) and (B), and forwarded it to the working group for finalization (DSC 12/4/10, paragraph 32 and annex 4).

4.4 The Sub-Committee considered proposals by Japan (DSC 12/4/18) to make editorial changes to a number of BC Code schedules and forwarded the document to the working group for further consideration.

Direct Reduced Iron (DRI)

4.5 The Sub-Committee considered documents DSC 12/4/1 (Venezuela), DSC 12/4/2 (Venezuela), DSC 12/4/3 (Venezuela), DSC 12/4/11 (Canada), DSC 12/4/12 (United Kingdom), DSC 12/4/13 (France), DSC 12/4/14 (Marshall Islands, Malta and INTERCARGO), DSC 12/INF.4 (Venezuela), DSC 12/INF.5 (Venezuela) and DSC 12/INF.6 (Venezuela) and noted that the proposals fell under three main topics: revision of the DRI(A) schedule, revision of the DRI(B) schedule and the possibility of a new schedule for DRI(Fines).

4.6 Following considerable debate, the Sub-Committee, being in favour of a safety first approach and thus supporting the inerting of DRI (B) and DRI (Fines) cargoes, forwarded the above proposals to the working group for further consideration.

Amendments to the BC Code on requirements for coal carriage on self-unloader type vessels

4.7 The Sub-Committee, having considered a document by Canada (DSC 12/4/15), which recalled their offer at DSC 11, following discussions regarding document DSC 11/4/8, to provide a final proposal to address issues relevant to the carriage of coal cargoes on a self-unloader and which provided proposals for new schedules to be included in the BC Code to cover the requirements for the carriage of coal on self-unloader type vessels, supported the proposals in principle.

4.8 The Sub-Committee, noting that the term self-unloader applied to a wide variety of ships types but that as the proposals were specific to those ships with conveyor belts that penetrate transverse bulkheads, expressed the view that the title should possibly be amended and that further consideration needed to be given to the appropriate section of the BC Code in which the text should be placed, and forwarded the document to the working group for further consideration and advice.

Miscellaneous proposals

Classification of formed solid sulphur

4.9 The Sub-Committee, having considered a document by Germany and Canada (DSC 12/4/16), which noted that, although the BC Code makes provision for lump and coarse grained sulphur, sulphur formed to a specific shape is currently excluded from the IMDG Code and is not listed in the BC Code and provided a schedule for consideration and inclusion as appropriate in the BC Code, noted that further consideration was needed to ensure that the requirements of the mandatory BC Code did not exceed those of SOLAS and that in certain situations, where cargoes were dropped directly into empty holds, there might be a significant dust hazard; and forwarded the document to the working group for further consideration and advice.

Establishment of the working group and its report

4.10 The Sub-Committee established a Working Group on Amendments to the BC Code and its Mandatory Application after having considered agenda item 5 (Mandatory application of the BC Code), and its decisions relevant to agenda item 4 are outlined in paragraph 5.8.

5 MANDATORY APPLICATION OF THE BC CODE

General

5.1 The Sub-Committee recalled that MSC 79 had endorsed the timetable (DSC 9/15, annex 1) on the envisaged sequence of events leading to the mandatory application of the BC Code, which could be subject to revision depending upon the progress made over the years and that under this agenda item, the following two sub-items needed consideration, namely:

- .1 identification of mandatory and recommendatory parts of the BC Code, including consequential amendments; and
- .2 amendments to SOLAS chapters VI and VII on making the BC Code mandatory.

Report of the working group established at DSC 11

5.2 The Sub-Committee recalled that at DSC 11 it had established the Working Group on the Amendments to the BC Code and its Mandatory Application, with the terms of reference outlined in paragraph 5.8 of document DSC 11/19 and that, on the basis of the oral report of the chairman of the working group, it had established the Correspondence Group on Amendments to the BC Code and its Mandatory Application, under the joint co-ordination of Australia and Japan, with the terms of reference indicated in paragraph 5.12 of document DSC 11/19. The Sub-Committee considered that the actions requested had been overtaken by the subsequent work of the correspondence group and approved, in general, those parts of the report related to agenda item 5.

Report of the correspondence group

5.3 The Sub-Committee, having considered the parts of the report of the correspondence group (DSC 12/4/4, paragraphs 15.1, 15.2 and 15.4 and DSC 12/4/5, paragraphs 31.5 and 31.6), took action as detailed below:

- .1 endorsed the group's view on renumber the regulations in SOLAS chapters VI and VII (DSC 12/4/4, paragraph 5);
- .2 agreed to the draft amendments to SOLAS, noting that if the text relating to trimming was deleted this would need to be adequately covered in the text of the BC Code, and instructed the working group to ensure that the provisions in the BC Code were clear in that respect (DSC 12/4/4, paragraph 7 and annex 1);
- .3 agreed to the draft amendments to the INF Code and forwarded them to the working group for finalization (DSC 12/4/4, paragraph 9 and annex 2);
- .4 instructed the Secretariat to consider footnotes to SOLAS and other IMO instruments as necessary (DSC 12/4/4, paragraphs 10 and 11);
- .5 endorsed the view of the group on ventilation requirements in SOLAS and the BC Code (DSC 12/4/5, paragraph 21); and
- .6 considered the amendment to the heading of SOLAS regulation II-2/19.3.4 and forwarded it to the working group for further consideration and advice (DSC 12/4/4, paragraph 22).

5.4 Having recalled that it was agreed at MSC 82 that the draft text of the mandatory Code is expected to be approved at MSC 84 in May 2008 with the view to its adoption at MSC 85, which is scheduled to take place in November 2008, the Sub-Committee agreed that it would be appropriate to recommend to the Committee that Contracting Governments to the Convention may apply the BC Code in whole or in part on a voluntary basis as from 1 January 2009 as, amongst others, the proposed voluntary application date will be the same as that of the IMDG Code (amendment 34-08).

5.5 The Sub-Committee, having considered proposals submitted under this agenda item and agenda item 4, referred to the need to finalize the text of the mandatory BC Code whilst also requiring a mechanism to facilitate ongoing amendments in light of experiences with the carriage

of solid bulk cargoes, and agreed that the mandatory BC Code should be amended by a similar amendment procedure to that used for amending the IMDG Code.

Establishment of the working group

5.6 The Sub-Committee established the Working Group on Amendments to the BC Code and its Mandatory Application, under the chairmanship of Captain J-D. Troyat (France), and instructed the group, taking into account the relevant decisions taken and comments made in plenary to:

- .1 deliberate the issues under two separate agenda items;
- .2 taking into account documents DSC 12/4/4, DSC 12/4/5, DSC 12/4/6, DSC 12/4/7, DSC 12/4/8, DSC 12/4/9, DSC 12/4/10, DSC 12/4/17, DSC 12/4/18 and DSC 12/5, finalize the draft text of the mandatory BC Code;
- .3 finalize the draft amendments to SOLAS Chapters VI and VII and the INF Code, in the standard format and the appropriate resolutions;
- .4 consider document DSC 12/4/15, regarding the requirements for coal carriage on self-unloader type vessels;
- .5 consider document DSC 12/4/16, which proposes a new schedule for SULPHUR (formed solid);
- .6 consider documents DSC 12/4/1, DSC 12/4/2, DSC 12/4/3, DSC 12/4/11, DSC 12/4/12, DSC 12/4/13, DSC 12/4/14, DSC 12/INF.4, DSC 12/INF.5 and DSC 12/INF.6 and draw up new schedules for the shipment of Direct Reduced Iron (A) and (B) and of DRI Fines, and consider the best way to inform industry on the requirements for safe carriage of DRI;
- .7 give priority to the finalization of the draft text of the mandatory BC Code; and
- .8 submit a written report to plenary on Friday, 21 September 2007.

Report of the working group

5.7 The Sub-Committee, having considered the report of the Working Group on Amendments to the BC Code and its Mandatory Application (DSC 12/WP.3), approved the report in general, and took action as detailed in the following paragraphs.

Amendments to the BC Code (agenda item 4)

5.8 The Sub-Committee having considered the actions requested of the Sub-Committee relevant to this subject took decisions as follows:

- .1 agreed, in principle, to a supplement, associated with the IMSBC Code, pending further consideration and authorized the Secretariat to include in the supplement existing DSC circulars relevant to solid bulk cargoes;
- .2 agreed to the new draft text of sub-section 1.3;

- .3 noted the deletion of the definition of “effective ventilation”;
- .4 noted that the working group had agreed an amended text for the Pig Iron schedule, which was not included in document DSC 12/WP.3/Add.1, and requested the Secretariat to insert the amended text;
- .5 agreed the draft text of the IMSBC Code, subject to further revision of DRI (A), DRI (B) and DRI Fines schedules;
- .6 agreed to invite Administrations to provide relevant data and information on criteria to change classifications of cargoes;
- .7 agreed to the draft appendices 2 and 4 to the IMSBC Code;
- .8 noted that further consideration may be given to clarify the expression “away from”;
- .9 agreed that the draft revised IMSBC Code remains a “living document”; and
- .10 noted that, subject to the progress made by the correspondence group and comments received, it might be necessary to establish a working group during MSC 84/85.

Mandatory application of the BC Code (agenda item 5)

5.9 The Sub-Committee agreed to the draft amendments to the 1974 SOLAS Convention to make the BC Code mandatory, set out in annex 3, for submission to MSC 84 for approval with a view to adoption at MSC 85.

5.10 The Sub-Committee agreed to the draft text of the mandatory Code of Safe Practice for Solid Bulk Cargoes (BC Code) and the associated draft MSC resolution, set out in annex 4, for submission to MSC 84 for approval with a view to adoption at MSC 85. To reflect the mandatory status of the Code, the Sub-Committee agreed to name it as International Maritime Solid Bulk Cargoes (IMSBC) Code.

Consequential amendments to the INF Code

5.11 Having considered the need to make consequential amendments to the INF Code in view of the envisaged IMSBC Code, the Sub-Committee agreed to the draft amendments to the INF Code and the associated draft MSC resolution, set out in annex 5, for submission to MSC 84 for approval with a view to adoption at MSC 85.

Establishment of a working group at MSC 84/85

5.12 In view of the need to finalize remaining documents and other issues that may be raised relating to the draft IMSBC Code due for approval at MSC 84, the Sub-Committee requested the Chairman to consult the Chairman of the Committee and explore the possibility of establishing a working group on amendments to the IMSBC Code at MSC 84/85.

Periodicity of amendments to the IMSBC Code

5.13 The Sub-Committee agreed that the envisaged IMSBC Code would remain a living document, that there would be a consequential need for continuous revisions at intervals of about two years, and recalled its earlier decision that the Code should be amended by a similar amendment procedure to that used for amending the IMDG Code.

Editorial changes to the draft IMSBC Code

5.14 The Sub-Committee authorized the Secretariat to effect necessary editorial changes and to verify any references made to SOLAS in the draft mandatory Code.

Establishment of the correspondence group

5.15 Having considered the text of the draft revised IMSBC Code, a number of delegations expressed a view that further work was necessary on the schedules for DRI (A), DRI (B), Coal and Brown coal briquettes, that new schedules were required for DRI Fines and formed solid sulphur, and that it may be necessary to spend more time considering the draft revised text of the BC Code before it could be adopted by MSC 85.

5.16 The delegation of Greece considered that more time was needed for consideration and evaluation of documents DSC 12/WP.3, DSC 12/WP.3/Add.1 and DSC 12/WP.3/Add.3 for the following reasons:

- .1 the limited time available to the working group to consider such a large amount of work;
- .2 the need to consider outstanding issues related to the requirements for coal carriage on self-unloader type vessels, a new schedule for formed solid sulphur and DRI (A), DRI (B) and DRI Fines (DSC 12/WP.3, paragraph 43); and
- .3 a lot of amendments on the initial proposed amendments were considered during the limited time available to the working group.

5.17 The Sub-Committee recalled its earlier decision that the IMSBC Code would be a living document, noted that the amendment process would enable the revision of existing schedules and inclusion of new schedules, agreed that there was time for Member Governments and organizations to adequately review the draft mandatory text prior to its adoption at MSC 85, and agreed that there remained an urgent need to resolve the issues related to the DRI schedules.

5.18 The Sub-Committee noted that due to time constraints the working group had been unable to consider documents DSC 12/4/15 (Canada) and DSC 12/4/16 (Canada) in depth, further noted that Canada intended to submit revised proposals to DSC 13 and invited interested delegations to contact Canada with their input.

5.19 Having agreed that there remained an urgent need to resolve issues related to DRI schedules, the Sub-Committee agreed to establish the Correspondence Group on DRI schedules, under the co-ordination of the Marshall Islands*, and instructed it, taking into account the relevant decisions taken in the working group and comments made in plenary, to:

- .1 finalize draft schedules for DRI (A), DRI (B) and DRI (Fines); and
- .2 submit a written report to DSC 13.

6 CASUALTY AND INCIDENT REPORTS AND ANALYSIS

General

6.1 The Sub-Committee considered submissions relevant to this agenda item, recalling that documents DSC 12/6/3 (Sweden), concerning the transport of peat and DSC 12/6/8 (Germany), concerning the explosion and fire on board **CMV Punjab Senator**, had been considered under agenda item 3 and that document DSC 12/6/5 (Canada), concerning maintenance requirements for freight containers had been considered under agenda item 18, and took decisions on the remaining proposals as detailed in the following paragraphs.

Inspection programmes for cargo transport units (CTUs) carrying dangerous goods

6.2 The Sub-Committee noted the results of container inspection programmes as submitted by Belgium (DSC 12/6/4), Canada (DSC 12/6/2), Chile (DSC 12/6/10), Germany (DSC 12/6/7), Lithuania (DSC 12/6), the Netherlands (DSC 12/6/6), the Republic of Korea (DSC 12/6/11), Sweden (DSC 12/6/1) and the United States (DSC 12/6/9).

6.3 The Sub-Committee recalled that, according to the 2006 consolidated report on container inspection programmes (DSC 11/6/10), a total of 25,284 cargo transport units had been inspected and 7,979 cargo transport units were found with deficiencies, that is about 32% of the cargo transport units inspected had deficiencies. A total of 8,574 deficiencies were found, that is a deficiency rate of 34%.

6.4 The Sub-Committee considered the results of the 2007 consolidated report on container inspection programmes (DSC 12/6/12, Secretariat), which was prepared on the basis of the reports referred to in paragraph 6.2 above, whereby a total of 34,416 cargo transport units were inspected and 8,319 cargo transport units were found with deficiencies, that is about 24% of the cargo transport units inspected had deficiencies. A total of 10,606 deficiencies were found, that is a deficiency rate of 30.8%.

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6.5 The Sub-Committee noted that it would be appropriate to develop a research methodology for an effective in-depth analysis of the results of inspection programmes, that where a targeted inspection programme was in place the results indicated much higher deficiency rates as compared with random inspection programmes and observed that this could preclude meaningful comparison of the statistics.

6.6 The Sub-Committee expressed its appreciation to those Member Governments that had submitted results of container inspection programmes and its concern about the high rate of deficiencies and the lack of adherence to the provisions of the IMDG Code, especially in the areas of placarding and marking which is 40%, followed by stowage/securing of cargoes inside units, which is 19%.

6.7 The Sub-Committee agreed that the mandatory training of shore side personnel and future work on revision of the CSC in the context of container examination programmes were both positive measures that would improve the situation and that it would be also helpful, for analysis purposes, if Member Governments would indicate whether or not their inspections were targeted or random when submitting reports in accordance with MSC.1/Circ.1202.

6.8 The Sub-Committee thanked Member Governments which had submitted the reports, requested them to continue to submit such reports and urged Member Governments, which had not yet carried out container inspection programmes, to do so and to submit the relevant information to the Sub-Committee in accordance with MSC.1/Circ.1202.

7 REVIEW OF THE SPS CODE

7.1 The Sub-Committee recalled that MSC 78 had considered the need to update the Code of Safety for Special Purpose Ships (SPS Code) to reflect amendments to SOLAS chapter III and the adoption of the LSA Code and further recalled that since the SPS Code was adopted in 1983, many requirements of the SOLAS Convention had been amended and that considerable experience had been gained in the Code's application.

7.2 The Sub-Committee further recalled that MSC 82 had noted that DE 49, following consideration of the item, had established a correspondence group and instructed it to develop draft amendments to the SPS Code and to submit a report to DE 50 (MSC 82/24, paragraph 7.3).

7.3 The Sub-Committee further recalled that MSC 82 noted the progress made by the SLF Sub-Committee on the review of the SPS Code, in particular the referral of document SLF 49/11 and the outcome of its discussion thereon to the DE Sub-Committee for co-ordination purposes (MSC 82/24, paragraph 12.13).

7.4 The Sub-Committee noted that the Editorial and Technical Group at its May 2007 meeting noted that the review of the SPS Code may not be restricted to dangerous goods of class 1 and that even if the dangerous goods are ship's stores and not cargo, the provisions of the IMDG Code may also need to be taken into account.

7.5 Having noted the relevant outcomes of MSC 82, DE 50 and SLF 50, the Sub-Committee considered a proposal by the United Kingdom (DSC 12/7), which provided text for inclusion in chapter 7 of the SPS Code to address all classes of dangerous goods carried on Special Purpose Ships, agreed to the text and requested the Secretariat to forward it to the DE Sub-Committee for inclusion in the SPS Code.

7.6 The Secretariat was requested to inform the DE Sub-Committee (co-ordinator) of the above outcome.

Completion of the items

7.7 Having considered that work on the item had been completed, the Sub-Committee invited the Committee to delete the item from its work programme.

8 AMENDMENTS TO THE CSS CODE

Draft MSC circular on specialized cargoes and regional trade

8.1 The Sub-Committee recalled that DSC 10, having considered the report of the correspondence group and noting that the information contained in the report of the group was relevant to specialized cargoes and regional trade, and thus it was not appropriate to amend the CSS Code, had agreed that the information should be brought to the attention of Member Governments by means of an MSC circular. In light of this development, the Committee agreed to extend the target completion date of the item to 2007.

8.2 The Sub-Committee, having considered a document by the Russian Federation (DSC 12/8) containing a draft MSC circular on the Russian rules for safe carriage of cargoes by sea, form for cargo information and method of calculation of non-shift criterion for structurizing cargoes, relevant to specialized cargoes and regional trade, agreed that it might not be appropriate to disseminate information on local regulations via MSC circulars and forwarded the document to the working group for further consideration on how to disseminate such information.

Establishment of the working group

8.3 The Sub-Committee established the working group on providing safe working conditions for securing of containers and the CSS Code, after having considered proposals under agenda items 15 and 18.

Report of the working group

8.4 Having considered the report of the working group (DSC 12/WP.4) in part relating to the item, the Sub-Committee took decisions as follows:

- .1 the Sub-Committee noted the group's views on the best way to disseminate information on local regulations, particularly the Russian Federation rules for safe carriage of cargoes by sea, form for cargo information and method of calculation of non-shift criterion for structurizing cargoes, relevant to specialized cargoes and regional trade, contained in document DSC 12/8 (Russian Federation), and that it could not reach an agreement on this issue and decided to request the Secretariat to consider the options suggested by the group (see DSC 12/WP.4, paragraph 5) and advise DSC 13 accordingly;
- .2 the Sub-Committee agreed to the deletion of proposed amendments to the CSS Code contained in the sections 7.2 (Container stowage) and 7.3 (Containership condition report) of the proposed amendments to the CSS Code contained in the annex to the report of the correspondence group

(DSC 12/10/1). However, it also agreed that matters on container stowage should be taken into account when the Guidelines for the preparation of the cargo securing manual (MSC/Circ.745) is further considered for amendment. Additionally, the Sub-Committee noted the group's opinion that the proposal on the Containership condition report (see document DSC 12/10/1, annex, section 7.3) had merit;

- .3 the Sub-Committee noted the progress made on the draft amendments to the new annex to the CSS Code, as set out in annex 6 prepared by the group, and further noted that, due to time constraints, the group was not able to finalize the draft amendments to the CSS Code and agreed to invite the Committee to extend the target completion date of this agenda item to 2008; and
- .4 in considering the above, if the working group is established at the next session, the Sub-Committee agreed to issue the draft terms of reference of the working group at the beginning of the session, providing clear instructions to the group to begin work on Monday morning, without prior consideration of the related agenda item in plenary (see document MSC 81/25, paragraphs 22.10 to 22.12).

9 EXTENSION OF THE BLU CODE TO INCLUDE GRAIN

Consequential amendments to the BLU Code (resolution A.862(20)) in light of the mandatory BC Code

9.1 The Sub-Committee recalled that at DSC 11, recognizing the importance of the Form for Cargo information, appendix 5 of the BLU Code, and the part it plays in the safety of cargo loadings (DSC 11/12, paragraph 4), had decided to consider the matter further when the mandatory BC Code had been finalized.

9.2 The Sub-Committee further recalled that it had considered a proposal for consequential amendments to the BLU Code in the light of the 2004 BC Code (resolution MSC.193(79)) (DSC 11/12, paragraph 5), agreed that it would be prudent to prepare the consequential amendments to the BLU Code once the IMSBC Code had been finalized and invited the Committee to extend the target completion date of this item to 2008, which it did.

9.3 The Sub-Committee noted that in light of the above comments and the finalization of the 2008 IMSBC Code at DSC 12, no documents had been submitted under this agenda item and invited interested delegations to submit proposals to DSC 13 for consideration.

10 GUIDANCE ON PROVIDING SAFE WORKING CONDITIONS FOR SECURING OF CONTAINERS

General

10.1 The Sub-Committee recalled that MSC 80 had considered document MSC 80/21/7 (United Kingdom), proposing incorporation, in the Code of Safe Practice for Cargo Stowage and Securing, guidance on providing a safe working platform for the securing of containers, to ensure that ship designers, builders and owners take account of the need to provide adequate arrangements to enable safe lashing and securing operations to take place so that no person is exposed to unnecessary risks to their safety and health whilst undertaking lashing and securing tasks in compliance with the ship's approved cargo securing plan and that the Committee had

included in the Sub-Committee's work programme a high priority item on "Guidance on providing safe working conditions for securing of containers".

10.2 The Sub-Committee noted that SLF 50, having considered the request of DSC 11 which requested the SLF Sub-Committee to review the 1969 TM Convention to encourage ship designers, builders and owners to reduce stack heights of containers so that the need for lashing on ships can be reduced, and having noted that if the "maritime real estate" principles (length x breadth x summer draught) are introduced it may have an effect of reducing the above-deck stacking of containers through increased utilization of open-top containerships with full-height cell guides.

10.3 The Sub-Committee further noted that NAV 53 observed that with respect to the draft Guidance on providing safe working conditions for securing of containers and the terms of reference of the correspondence group on that subject (DSC 11/13), there were no items of relevance relating to navigational and operational matters and that NAV 53 had no comments for the consideration of DSC 12.

10.4 The Sub-Committee recalled that DSC 11 had established a working group to progress with the issue, with the terms of reference listed in document DSC 11/19, paragraph 13.9, considered the report of the working group (DSC 12/10) and took actions as reflected in the paragraphs below.

Report of the working groups established at DSC 11

10.5 Following consideration of the documents above the Sub-Committee took action as follows:

Revision of the guidelines for the preparation of the cargo securing manual (MSC/Circ.745)

- .1 agreed to the draft MSC circular regarding the Revised Guidelines for the preparation of the Cargo Securing Manual and invited the Committee to approve it (DSC 12/10, paragraphs 5 to 7 and annex 1);
- .2 noted the group's view that the provision of safe working conditions for securing of containers should be made mandatory under the SOLAS Convention and invited interested delegations to submit proposals for a new work programme item to the Committee (DSC 12/10, paragraph 7);

Draft amendments to the CSS Code (resolution A.714(17))

- .3 noted that the draft amendments to the CSS Code were affected by the outcomes of the correspondence group and forwarded the amendments to the working group for further consideration (DSC 12/10, paragraphs 8 to 10 and annex 2);
- .4 endorsed the view of the group that the term 'calculation strength' was the correct text from MSC/Circ.664 and that the term 'calculated strength' was a historical typing error (DSC 12/10, paragraph 10);
- .5 endorsed the view of the working group that a new annex to the CSS Code should be adopted and urged all relevant parties to reflect it in their national provisions;

Draft revised Recommendations on the safety of personnel during container securing operations (MSC/Circ.886)

- .6 agreed to the draft revised Recommendations on safety of personnel during container securing operations and forwarded the associated draft MSC circular to MSC 84 for approval, set out in annex 7.

Report of the correspondence group

10.6 The Sub-Committee considered the report of the correspondence group (DSC 12/10/1) and a related document by ICHCA (DSC 12/10/2) on the results of a research project on “Container Vessel Risk Assessment for the Safety of Persons” and forwarded the documents to the working group for further consideration and finalization of the draft amendments to the CSS Code.

Establishment of the working group

10.7 The Sub-Committee agreed to establish the Working Group on providing safe working conditions for securing of containers and the CSS Code, after submissions under agenda items 15 and 18 had been considered (see paragraphs 15.1 to 15.6 and 18.1 to 18.4).

Report of the working group

10.8 Having considered the report of the working group (DSC 12/WP.4) in part relating to the item, the Sub-Committee agreed:

- .1 to delay the submission to the Committee of the agreed Revised Guidelines for the preparation of the Cargo Securing Manual and the associated draft MSC circular, as contained in annex 1 to document DSC 12/10, until the work on the draft amendments to the CSS Code is finalized (see paragraph 8.4 above) in order to ensure that they that are approved at the same session of the Committee;
- .2 to the additional draft amendments to the Revised Guidelines for the preparation of Cargo Securing Manual, as contained in annex 1 to document DSC 12/10, prepared by the group; and in order to make it clear that Cargo Safe Access Plan (CSAP) is only required for container ships, as set out in annex 8; and
- .3 that a consolidated text of the draft Revised Guidelines, containing the draft amendments referred to in subparagraphs .1 and .2 above, be prepared by the Secretariat for submission to MSC 85.

11 REVIEW OF THE RECOMMENDATIONS ON THE SAFE USE OF PESTICIDES IN SHIPS

11.1 The Sub-Committee recalled that at DSC 10 Germany had submitted proposals (DSC 10/3/15 and DSC 10/4/4 which, noting that Recommendations on the safe use of pesticides in ships cover three aspects of the use of pesticides on board ships (the fumigation of freight containers and cargo transport units subject to the IMDG Code, the fumigation of cargo holds containing dry cargo, subject to the IMSBC Code, and the control of rodent pests on board all kinds of ships) and that the provisions governing them are interspersed in the existing version of

the Recommendations, thus making it difficult to identify the provisions of relevance and posing significant health risks, proposed to review the existing Recommendations under three separate topics.

11.2 The Sub-Committee further recalled that DSC 10 had agreed that the proposal by Germany had merit and had prepared a relevant justification for a new item in the Sub-Committee's work programme, in accordance with the Guidelines on the organization and method of work for consideration by the Committee.

11.3 The Sub-Committee recalled that DSC 11 had considered document DSC 11/14 (United Kingdom) which, with a view to facilitating timely revision of the Recommendations on the safe use of pesticides in ships, provided:

- .1 a comprehensive guidance document to minimize the risks of personnel and assist in the operational issues involved in the transport supply chain of fumigated containerized cargoes; and
- .2 an *aide-memoire* summarizing the key points for distribution to those involved in fumigating containers.

11.4 The Sub-Committee also recalled that DSC 11, following a general discussion of the document and noting that some of the proposed obligations placed on the master are, perhaps, excessive, had agreed to the offer of the delegation of Germany to submit, to DSC 12, taking into consideration document DSC 11/14, draft revised Recommendations.

11.5 The Sub-Committee, having considered a proposal by Germany (DSC 12/11 and DSC 12/INF.3) to revise the text in the IMSBC Code regarding the Recommendations on the safe use of pesticides in ships and to limit it to fumigation of cargoes subject to the IMSBC Code, noted that some Member Governments use methyl bromide for fumigation where no suitable alternatives were available and that it might be premature to remove all reference to methyl bromide from the Recommendations.

11.6 The Sub-Committee agreed that the Recommendations on the safe use of pesticides in ships should be revised with information provided separately, as applicable to the carriage of solid bulk cargoes and the carriage of packaged dangerous goods; and further agreed that in the wider context of health and safety these issues may be more appropriately considered in cooperation with the WHO, ILO and the FAO.

Establishment of the drafting group

11.7 Having deliberated the item, the Sub-Committee established the Drafting Group on the Review of the Recommendations on the safe use of pesticides in ships under the chairmanship of Dr. Thomas Hofer (Germany), and instructed the group, taking into account documents DSC 12/11, DSC 12/INF.3, DSC 10/3/15, DSC 104/4 and DSC 11/14 and the relevant decisions taken and comments made in plenary, to:

- .1 develop a draft MSC circular on the safe use of pesticides in ships, as applicable to the carriage of solid bulk cargoes, based on document DSC 12/11;

- .2 develop a draft MSC circular on the safe use of pesticides in ships, as applicable to the carriage of packaged dangerous goods, based on document DSC 11/14; and
- .3 submit a written report to the plenary on Thursday, 20 September 2007.

Report of the drafting group

11.8 Upon receiving the report of the drafting group (DSC 12/WP.6), the Sub-Committee approved the report, in general, and took decisions as detailed in the following paragraphs.

Recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo holds

11.9 The Sub-Committee noted that, as agreed in plenary, the requirements relating to Methyl Bromide (paragraphs 4.5 and 4.13 of document DSC 12/11) were not deleted from the draft Recommendations and that requirements relating to the control of rodent pests outside cargo spaces were deleted.

11.10 The Sub-Committee noted that the group, having identified that MSC-MEPC.2/Circ.1 (Disposal of fumigant material) is of relevance for the draft Recommendations, introduced the wording of paragraphs 2 and 5 of the circular into appendix 1 of the draft Recommendations.

11.11 The Sub-Committee agreed to the draft Recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo holds and the associated draft MSC circular, for submission to MSC 84 for approval, set out in annex 9.

11.12 The Sub-Committee endorsed the recommendation of the group that the draft Recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo holds, after its approval by the Committee, should supplement the IMSBC Code and the Grain Code, as appropriate.

Recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo transport units

11.13 The Sub-Committee agreed to the draft Recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo transport units and the associated draft MSC circular, set out in annex 10, for submission to MSC 84 for approval. The Sub-Committee also agreed that the appendix to the Recommendations be available via the IMO website, after its approval by the Committee.

11.14 The Sub-Committee endorsed the recommendation of the group that the draft Recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo transport units, after its approval by the Committee, should supplement the IMDG Code, as appropriate.

Fresh food produce under controlled atmosphere

11.15 The Sub-Committee, having discussed the situation on the carriage of fresh food produce under controlled atmosphere, agreed that these Recommendations should not apply to the carriage of fresh food produce under controlled atmosphere.

Consequential amendments to SOLAS chapter VI, the IMDG Code and the IMSBC Code

11.16 The Sub-Committee endorsed the recommendation of the group that references to the Recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo holds and the Recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo transport units within SOLAS chapter VI, the IMDG Code and the IMSBC Code should be amended to show the correct references to those Recommendations and requested the Secretariat to act accordingly.

Extension of the target completion date

11.17 The Sub-Committee, recognizing the need to review, in a holistic manner, the Recommendations on the Safe use of pesticides in ships applicable to the fumigation of cargo transport units agreed to invite the Committee to extend the target completion date of the item to 2008.

12 APPLICATION OF REQUIREMENTS FOR DANGEROUS GOODS IN PACKAGED FORM IN SOLAS AND THE 2000 HSC CODE

General

12.1 The Sub-Committee recalled that MSC 80 in considering document MSC 80/23/3 (Japan) noted the possible errors contained in table 19.3 in SOLAS chapter II-2 regarding the application of the requirements to various classes of dangerous goods and the invitation to rectify the table and the relevant IMO instruments.

12.2 The Sub-Committee also recalled that MSC 80 had agreed, in principle, with the proposal and invited Japan to consider submitting an appropriate proposal to MSC 81 for a new work programme item for the DSC and the FP Sub-Committees.

12.3 The Sub-Committee recalled that MSC 81 considered document MSC 81/23/5 (Japan) and decided to include, in the FP and DSC Sub-Committees' work programmes and the provisional agendas for FP 51 and DSC 11, a high priority item on "Application of requirements for dangerous goods in packaged form in SOLAS and the 2000 HSC Code", with a target completion date of 2007.

Report of the correspondence group

12.4 The Sub-Committee recalled that DSC 11 had established the Correspondence Group on Application of requirements for dangerous goods in packaged form in SOLAS and the 2000 HSC Code, under the co-ordination of Japan, with the terms of reference indicated in paragraph 15.3 of document DSC 11/19. Having considered the report of the correspondence group (DSC 12/12) and document DSC 12/12/1 (United Kingdom), the Sub-Committee took decisions as detailed in the following paragraphs:

- .1 endorsed the view of the correspondence group on the style of the tables, agreed to align the flashpoints with those in the IMDG Code in the light of document DSC 12/12/1 (United Kingdom), noted that it may not be appropriate to include reference to flashpoints greater than 60°C in the tables, and forwarded annex 1 of DSC 12/12 to the working group for finalization (DSC 12/12, paragraphs 6 to 8);

- .2 endorsed the view of the correspondence group that the flashpoint criteria in table 19.3 should be amended from 61°C to 60°C;
- .3 agreed that mention of specific UN numbers in SOLAS was not desirable because the UN numbers may be updated every two years, which may produce a consequential need to amend SOLAS accordingly, and forwarded the matter to the working group for further consideration;
- .4 referred the draft revised tables set out in annexes 1 and 2 to the working group for further consideration and finalization, taking into account that the comments related to annex 1 are relevant to annex 2 as well (DSC 12/12, paragraphs 13, 14 and 33 to 35);
- .5 agreed with the view of the correspondence group on the application of the revised tables to existing ships (DSC 12/12, paragraphs 15 to 19);
- .6 noted that annex 4 might require consequential amendment in the light of future debate at DSC 12 on excepted quantities and forwarded annex 4 to the working group for finalization, subject to such future amendment (DSC 12/12, paragraphs 20 to 22 and annex 4);
- .7 noted that annex 6 would be affected by changes to the preceding annexes and forwarded it to the working group for finalization (DSC 12/12, paragraphs 23 to 26 and annex 6); and
- .8 forwarded consideration of the application of the requirements in SOLAS regulation II-2/19.3.4.2 and section 7.17.3.4.2 of the 2000 HSC Code to class 4.1 substances to the working group, bearing in mind earlier comments on the inclusion of UN numbers in SOLAS (DSC 12/12, paragraphs 27 to 32).

Establishment of the working group

12.5 The Sub-Committee, having considered the report of the correspondence group established at DSC 11 and following discussions on the application of requirements for dangerous goods in packaged form in SOLAS and the 2000 HSC Code, agreed to establish a Working Group on the Application of requirements for dangerous goods in packaged form in SOLAS and the 2000 HSC Code, under the chairmanship of Dr. Sasuma Ota (Japan), and instructed the group, taking into account documents DSC 12/12 and DSC 12/12/1, the comments made and decisions taken in plenary, to:

- .1 finalize the draft amendments to SOLAS and the appropriate resolutions;
- .2 finalize the appropriate amendments to the 2000 HSC Code;
- .3 finalize the revised MSC circular related to the document of compliance; and
- .4 submit a written report to the plenary on Thursday, 20 September 2007.

Report of the working group

12.6 Upon receiving the report of the working group (DSC 12/WP.5), the Sub-Committee approved the report, in general, and took decisions as detailed in the following paragraphs.

12.7 Having considered the view of the group regarding application of the requirements concerning explosion proof mechanical ventilation (DSC 12/WP.5, paragraphs 4 to 6), the Sub-Committee agreed to the deletion of 'X' in the row relevant to SOLAS regulation II-2/19.3.4.2 in table 19.3, in the columns "class 4.3 liquids", "class 6.1 liquids $FP \geq 23^{\circ}C$ to $\leq 60^{\circ}C$ " and "class 8 liquids $FP \geq 23^{\circ}C$ to $\leq 60^{\circ}C$ ", where "FP" denotes the flashpoint, and invited the FP Sub-Committee to examine, in the context of the aforementioned decision, the application of the requirements for explosion proof mechanical ventilation.

12.8 The Sub-Committee, having agreed with the opinion of the group to prohibit under deck stowage of UN 1082 and UN 3399 PG I and II, expressed the view that appropriate amendments need to be included in the IMDG Code to ensure that the aforementioned products are not allowed under deck stowage, and, in addition noting that any products, identified in the future, belonging to class 2.3 with subsidiary risk 2.1, and class 4.3 with subsidiary risk 3 and a flashpoint of less than $23^{\circ}C$ c.c. would also have that restriction, instructed the E&T Group to prepare corresponding amendments to the IMDG Code and to bear that aspect in mind when preparing any potential related amendments.

12.9 Having considered the amendments to stowage categories, the Sub-Committee agreed to the set of the draft amendments to SOLAS regulation II-2/1 and II-2/19, including draft revised tables 19.1 and 19.3, along with the associated draft MSC resolution, set out in annex 11.

12.10 The Sub-Committee, having agreed to the amendments to the stowage categories referred to in paragraph 12.9 above, agreed to the corresponding set of draft amendments to the 2000 HSC Code, including the draft revised tables 7.17-1 and 7.17-3, along with the associated draft MSC resolution, set out in annex 12.

12.11 In light of the amendments agreed in paragraphs 12.9 and 12.10 above, the Sub-Committee agreed to the draft MSC circular on Document of compliance with the special requirements for ships carrying dangerous goods under the provisions of regulation II-2/19 of the 1974 SOLAS Convention, as amended and of regulation 7.17 of HSC Code 2000, as amended, set out in annex 13.

12.12 Regarding the entry into force dates of the amendments the Secretariat highlighted that there were two options:

- .1 that if the amendments were intimately related to the amendments to the IMDG Code they could go forward as part of the package of amendments associated with amendment 34-08 to the IMDG Code for adoption at MSC 84; or
- .2 if the amendments were not considered to be intimately related to those of the IMDG Code they would follow the normal amendment procedure, noting that this would create a discord with the entry into force dates of the IMDG Code related amendments.

The Sub-Committee, noting the close proximity of MSC 83 to DSC 12, recalled the earlier decision of MSC 82 not to consider the outcome of DSC 12 at MSC 83, agreed that due to time

constraints it was not possible to identify those parts of the amendments that could be sent straight for adoption, and further agreed that it would be appropriate to forward amendment 34-08 to the IMDG Code for adoption at MSC 84, along with the amendments to SOLAS, with a view to adopting those amendments at MSC 85.

12.13 Regarding SOLAS regulation II-2/19.3.8 on requirement for insulation of machinery space boundaries, the Sub-Committee noted the view of the group that the aforementioned regulation should apply to class 5.2.

12.14 The Secretariat was requested to inform the FP Sub-Committee (co-ordinator) of the above outcome.

Completion of the item

12.15 Having considered that work on the item had been completed, the Sub-Committee invited the Committee to delete the item from its work programme.

13 GUIDANCE ON PROTECTIVE CLOTHING

13.1 The Sub-Committee recalled that in considering the proposed draft amendment to paragraph 7.17.3.6.1 of the 2000 HSC Code prepared by FP 49, DSC 10 noted that this new provision would require that the chemical protective clothing carried on board be selected “taking into account the danger of the chemicals according to the class and liquid or gaseous”. In this regard, DSC 10 also noted a lack of corresponding requirement in SOLAS chapter II-2 and, if approved, the HSC Code would provide a higher level of safety than SOLAS ships even though such ships face a similar hazard.

13.2 The Sub-Committee also recalled that notwithstanding the above points, DSC 10 endorsed the proposed amendment to paragraph 7.17.3.6.1 of the 2000 HSC Code prepared by FP 49, as modified, from an operational safety standpoint, and expressed the view that, if the relevant amendments to SOLAS and the HSC Code were approved by the Committee, the Sub-Committee’s work programme should include an item on the development of the associated guidance concerning protective clothing.

13.3 The Sub-Committee further recalled that MSC 81, endorsing proposals by DSC 10, decided to include, in the Sub-Committee’s work programme and the provisional agenda for DSC 11, a high priority item on “Guidance on protective clothing”, with two sessions needed to complete the item.

13.4 The Sub-Committee noted that no documents had been submitted for consideration at DSC 12 and invited interested delegations to submit proposals for consideration at DSC 13.

14 REVISION OF THE CODE OF SAFE PRACTICE FOR SHIPS CARRYING TIMBER DECK CARGOES

14.1 The Sub-Committee recalled that, following consideration of document MSC 82/21/14 (Sweden) proposing to revise the Code on Safe Practice for Ships Carrying Timber Deck Cargoes (resolution A.715(17)) to replace outdated methods for securing timber deck cargoes with new methods for safe, rational and efficient securing of such cargoes, MSC 82 agreed to include, in the Sub-Committee’s work programme and the provisional agenda for DSC 12, a high priority

item on “Revision of the Code of Safe Practice for Ships Carrying Timber Deck Cargoes”, with a target completion date of 2010.

14.2 The Sub-Committee considered document DSC 12/14 (Sweden), which provided a framework and a schedule for the revision of resolution A.715(17) on the Code of Safe Practice for ships carrying timber deck cargoes, and agreed that this was an important topic and that Sweden had provided a useful way forward.

Establishment of the correspondence group

14.3 Having noted the comments above, the Sub-Committee established a Correspondence Group on the Revision of the Code of Safe Practice for Ships Carrying Timber Deck Cargoes, under the co-ordination of Sweden^{*}, with the following terms of reference:

The correspondence group is instructed, taking into account the relevant decisions taken and comments made in plenary, to:

- .1 review the Code of Safe Practice for Ships Carrying Timber Deck Cargoes, paying particular attention to updating the requirements for safe and efficient securing;
- .2 identify the associated circulars and resolutions that may require consequential amendments;
- .3 provide a draft Revised Code for consideration at DSC 13; and
- .4 submit a written report to DSC 13.

15 FORM AND PROCEDURE FOR APPROVAL OF THE CARGO SECURING MANUAL

15.1 The Sub-Committee recalled that MSC 82 had considered a proposal by the Russian Federation (MSC 82/21/16) to amend SOLAS regulations VI/5 and VII/5 to require the Cargo Securing Manual to be also provided in the English language and every sheet of the Manual to be marked by symbol of approval acceptable to the Administration, and included in the Sub-Committee’s work programme and provisional agenda for DSC 12, a high priority item on “Form and procedure for approval of the Cargo Securing Manual”, with a target completion date of 2008. In this context, the Committee noted a view that rather than amending the appropriate SOLAS regulation, respective modifications to MSC/Circ.745 could be developed to address the issue.

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15.2 The Sub-Committee considered document DSC 12/15 (IACS) which supports the proposal that the cargo securing manual should be written in the ship's working language and that, if this language is not English, a translation of the manual into English should be provided.

15.3 Furthermore, with respect to proposals for measures to prevent falsification of the cargo securing manual the Sub-Committee was advised by IACS that IACS members are not aware that falsification of documents is a problem and have no cases that they can trace, therefore, IACS suggested that, before embarking on any changes that would require a change to the cargo securing manual approval procedures, or any other manual required by SOLAS, MARPOL or their associated Codes, Administrations provide evidence that falsification is widespread and frequent enough to support such changes.

15.4 The Sub-Committee agreed that, whilst there did not appear to be widespread evidence of falsification of Cargo Securing Manuals, the text of MSC/Circ.745 on Guidelines for the preparation of the Cargo Securing Manual would benefit from amendments to require Cargo Securing Manuals to be written in clear and unambiguous text, further noted that the Cargo Securing Manual was a "living document" and having concurred with the view that, whilst it was not appropriate to mark every page of the manual, agreed that appropriate records should be maintained of changes to dynamic parts of the manual and forwarded documents DSC 12/15 and MSC 82/21/16 to the working group to prepare draft amendments to MSC/Circ.745.

15.5 The Sub-Committee, having noted a view that the Cargo Securing Manual is primarily used by the ship's staff and, therefore, only needs to be produced in the working language of the ship, further noted that most Manuals are approved by recognized organizations that might not speak the working language of the ship and, as a result, it was advisable to reproduce the Cargo Securing Manuals in the working language of the ship, and, where that language was not English, French or Spanish, in one of those languages as well.

Establishment of the Working Group

15.6 The Sub-Committee established the Working Group on providing safe working conditions for securing of containers and the CSS Code, after having considered proposals under agenda item 18.

Report of the working group

15.7 Having considered the part of the report of the working group (DSC 12/WP.4) relating to the item, the Sub-Committee noted the group's consideration of document DSC 12/15 (IACS), which comments on document MSC 82/21/16 (Russian Federation), containing a proposal for amending SOLAS regulations VI/5 and VII/5, to require the Cargo Securing Manual (CSM) to be also provided in the English language, and a recommendation that the CSM be provided in the working language of the vessel, and if the working language is not English, a translation into English should be provided. However, the Sub-Committee recalled its decision taken earlier in plenary (see paragraph 15.5) and agreed to progress the matter at DSC 13 as the final decision would need to be included in an amendment to MSC/Circ.745.

15.8 With respect to the amendments to the CSS Code, the Chinese delegation voiced its concern that adding the translation of the cargo securing manual into one of the three IMO working languages would not prevent falsification of the manuals. Furthermore, they considered some cargoes are secured by seafarers on board whilst some may require assistance from ashore. Therefore, it is not certain that the shore personnel use English to communicate. There is no

mandatory requirement in the relevant IMO conventions for this language requirement and the necessary translation would impose an unnecessary burden on shipowners.

16 WORK PROGRAMME AND AGENDA FOR DSC 13

16.1 Taking into account the progress made at this session and the provisions of the agenda management procedure contained in paragraphs 3.14 to 3.27 of the Guidelines on the organization and method of work (MSC-MEPC.1/Circ.1), the Sub-Committee revised its work programme (DSC 12/WP.2) based on that approved by MSC 82, taking into account relevant decisions of MEPC 56, and prepared the revised Sub-Committee's work programme and provisional agenda for DSC 12. While reviewing the work programme, the Sub-Committee agreed to invite the MSC, and the MEPC as far as environment-related items are concerned, to:

- .1 delete the following work programme items, as work on them has been completed:
 - .1.1 item H.2 - Mandatory application of the BC Code;
 - .1.2 item H.3 - Review of the SPS Code;
 - .1.3 item H.8 - Application of requirements for dangerous goods in packaged form in SOLAS and the 2000 HSC Code;
- .2 extend the target completion date of the following work programme items:
 - .2.1 item H.4 - Amendments to the CSS Code, to 2008;
 - .2.2 item H.6 - Guidance on providing safe working conditions for securing of containers, to 2008;
 - .2.3 item H.7 - Review of the Recommendations on the safe use of pesticides in ships, to 2008;
- .3 amend the title and extend the target completion date of the work programme item H.1 as follows:
 - .3.1 item H.1 - Amendment (35-10) to the IMDG Code and supplements; 2009
- .4 include the following new work programme items in the Sub-Committee's work programme, taking into account the justification provided:
 - .4.1 item H.9 - Amendments to the International Convention for Safe Containers, 1972; 2009
 - .4.2 item H.10 - Review of the Guidelines for packing of cargo transport units; 2009
- .5 renumber the work programme items accordingly; and
- .6 approve the proposed revised work programme of the Sub-Committee together with the proposed revised target completion dates and other editorial changes.

Arrangements for the next session

16.2 The Sub-Committee agreed to establish, as DSC 13, working and drafting groups on the following subjects:

- .1 Amendments to the BC Code;
- .2 Review of the Recommendations on the safe use of pesticides in ships;
- .3 Revision of the Code of safe practice for ships carrying timber deck cargoes;
- .4 Guidance on protective clothing; and
- .5 Review of Guidelines for packing of cargo transport units.

Date of next session

16.3 The Sub-Committee noted that the date of the thirteenth session is tentatively scheduled to take place from 22 to 26 September 2008.

Future sessions of the Editorial and Technical (E&T) Group

16.4 The Sub-Committee noted that, as no major amendments to the IMDG Code need to be prepared or finalized in 2008, there is no need to hold any E&T Group meetings next year and invited the Committee to approve two meetings of the Editorial and Technical Group in 2009, with the first meeting in April or May and the second meeting back-to-back with DSC 14.

17 ELECTION OF CHAIRMAN AND VICE-CHAIRMAN FOR 2008

17.1 In accordance with the Rules of Procedure of the Maritime Safety Committee, the Sub-Committee unanimously re-elected Mrs. Olga P. Lefèvre (France) as Chairman and Captain Juan. P. Heusser (Chile) as Vice-Chairman, both for the year 2008.

18 ANY OTHER BUSINESS

18.1 The Sub-Committee noted that there were, primarily, five issues that needed to be considered or noted, as appropriate, under this agenda item, namely:

- .1 clarification of the CSC provisions relating to the capacity to examine containers, that is document DSC 12/18 (Russian Federation);
- .2 preparation of recommendations on the scope and principles of continuous examination programmes, that is documents DSC 12/18/1 (Russian Federation) and DSC 12/6/5 (Canada);
- .3 an update on the status of courses on the implementation of the IMDG Code, document DSC 12/1/1;

- .4 natural gas hydrate pellet (NGHP) carriers, document BLG 11/16; and
- .5 revision of the Code on Alarms and Indicators, document DSC 12/2.

Clarification of the CSC provisions relating to the capacity to examine containers

18.2 The Sub-Committee, having considered document DSC 12/18 (Russian Federation) and a proposal to amend regulation 2 of the International Convention for Safe Containers, 1972 to prohibit owners of approved containers from conducting their own examinations, unless permitted to do so by the Administration, agreed that the current industry practices were satisfactory and that more evidence was needed to support the proposals.

Preparation of recommendations on the scope and principles of examination programmes

18.3 The Sub-Committee, having considered a proposal by the Russian Federation (DSC 12/18/1) to standardize the scope and principles of continuous examination programmes and a proposal by Canada (DSC 12/6/5) to review the requirements of the periodic and continuous examination programmes in light of a recent incident, agreed that the proposals had merit and forwarded them to the working group to develop a justification for a new work programme item in accordance with the Guidelines on the Organization and method of work.

Establishment of the working group

18.4 The Sub-Committee, after consideration of proposals submitted under this agenda item and agenda items 8, 10 and 15, established the Working Group on Guidance on providing safe working conditions for securing of containers and the CSS Code, under the chairmanship of Captain Colin Thomas (United Kingdom), and instructed the group, taking into account the relevant decisions taken and comments made in plenary, to:

- .1 deliberate on the issue under four separate agenda items;
- .2 consider the best way to disseminate information on local regulations (DSC 12/8);
- .3 finalize the draft amendments, including those related to the new Annex to the CSS Code (DSC 12/10, DSC 12/10/1, appendix 2 and DSC 12/10/2) and prepare an associated MSC circular;
- .4 prepare draft amendments to the Guidelines for the preparation of Cargo Securing Manual (MSC/Circ.745) and associated MSC circular (DSC 12/15 and MSC 82/21/16);
- .5 develop a justification for a work programme item on the need to amend the CSC provisions relating to the capacity to examine containers for forwarding to the Committee (DSC 12/18/1 and DSC 12/6/5); and
- .6 deliver a written report on progress made to plenary on Thursday, 20 September 2007.

Report of the working group

18.5 The Sub-Committee, having received the report of the working group (DSC 12/WP.4), approved it in general and agreed to the justification for the proposal of a new work programme item, prepared by the group, on the need to amend the CSC provisions relating to the capacity to examine containers, as set out in annex 14, taking into account the Guidelines on the organization and method of work (MSC-MEPC.1/Circ.1).

18.6 The Sub-Committee expressed the view that Administrations may wish to consider carrying out a review of ACEP schemes that they have approved, in addition to the container checks carried out according to Inspection programmes for cargo transport units (CTUs) carrying dangerous goods (MSC.1/Circ.1202) and report back to DSC 13.

Courses on the implementation of the IMDG Code

18.7 The Sub-Committee noted that, under the Organization's programme on enhancement of maritime safety, since DSC 11, one national course on the implementation of the IMDG Code had been delivered and 33 participants benefited from the event.

Natural gas hydrate pellet (NGHP) carriers

18.8 The Sub-Committee noted that BLG 11, having considered a proposal by Japan on the development of appropriate safety requirements for NGHP carriers to be developed by the Organization, had invited Japan to submit a definitive version of the proposal, including a detailed plan of action on the work to be undertaken by BLG (as co-ordinator), in co-operation with other sub-committees, including DSC, subject to the relevant decisions of MSC 83.

Revision of the Code on Alarms and Indicators

18.9 The Sub-Committee recalled that DE 50, having 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, 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 and, noting that the references to the IMDG Code may require updating, forwarded document DE 50/10/2/Rev.1 to the E&T Group for consideration and requested the Secretariat to transmit the outcome of its deliberations directly to the DE Sub-Committee.

Expressions of appreciation

18.10 The Sub-Committee expressed appreciation to Captain Jan Erhardt from the Federal Ministry of Transport, Building and Urban Affairs, who had been with the German Delegation since 1988 and had participated in the DSC Sub-Committee since its inception and had been an active participant with the work of the BC Code, and wished him a long and happy retirement for next spring.

18.11 The Sub-Committee, having noted that Mr. I. Rahim, the former Secretary of the Sub-Committee has been assigned increased responsibilities within the Maritime Safety Division and will no longer be available to serve as the Secretary of the Sub-Committee, expressed its

deep appreciation for the assistance rendered and the outstanding contribution he made over the years to the work of this Sub-Committee.

19 ACTION REQUESTED OF THE COMMITTEES

19.1 The Maritime Safety Committee, at its eighty-fourth session, is invited to:

- .1 approve the draft MSC circular on Amendments to the Revised Emergency Response Procedures for Ships Carrying Dangerous Goods (EmS Guide) (paragraph 3.20 and annex 1);
- .2 consider exploring the possibility of making available the complete text of the IMDG Code freely downloadable from the internet (paragraph 3.26);
- .3 endorse the course of action taken by the Sub-Committee, which was to approve DSC.1/Circ.54 on Information on the amendments to the marine pollutant provisions, which will take effect through amendment 34-08 to the IMDG Code (paragraph 3.34);
- .4 endorse the course of action taken by the Sub-Committee, which was to approve DSC.1/Circ.55 on Guidance on the application of chapter 2.10 (Marine Pollutants) of the International Maritime Dangerous Goods (IMDG Code) (amendment 33-06) (paragraph 3.35);
- .5 note the potentially serious consequences of exposing some containerized cargoes to elevated heat sources and note that similar discussions are currently ongoing at the UN Sub-Committee of experts on the transport of dangerous goods (UNSCOE) and that it might be premature to issue a DSC Circular before the outcomes of the considerations at that UN Sub-Committee are completed (paragraph 3.52);
- .6 note that the Sub-Committee agreed to amendment (34-08) to the IMDG Code and consider the amendment with the view to adoption (paragraph 3.57 and Circular letter No.2820);
- .7 note the recommendation of the Sub-Committee that Contracting Governments to the Convention may apply the International Maritime Solid Bulk Cargoes (IMSBC) Code in whole or in part on a voluntary basis as from 1 January 2009 as, amongst others, the proposed voluntary application date will be the same as that of the IMDG Code (amendment 34-08) (paragraph 5.4);
- .8 approve the draft amendments to the International Convention for the safety of life at sea, 1974 (SOLAS), as amended (paragraph 5.9 and annex 3);
- .9 approve the draft text of the International Maritime Solid Bulk Cargoes (IMSBC) Code with the view to adoption at MSC 85 (paragraph 5.10 and annex 4);
- .10 approve the draft amendments to the International code for the safe carriage of packaged irradiated nuclear fuel, plutonium and high-level radioactive wastes on board ships (INF Code), as amended with the view to adoption at MSC 85 (paragraph 5.11 and annex 5);

- .11 note that the Sub-Committee agreed to text for inclusion in chapter 7 of the Code of Safety for Special Purpose Ships (SPS Code) and requested the Secretariat to forward the text to the DE Sub-Committee (co-ordinator) for inclusion in the SPS Code (paragraph 7.5);
 - .12 approve the draft MSC circular on revised Recommendations on safety of personnel during container securing operations (paragraph 10.5.6 and annex 7);
 - .13 note that the Sub-Committee agreed: to delay the submission to the Committee of the agreed Revised Guidelines for the preparation of the Cargo Securing Manual and the associated draft MSC circular until the work on the draft amendments to the CSS Code is finalized, in order to ensure that they are approved at the same session of the Committee; to the additional draft amendments to the Revised Guidelines for the preparation of Cargo Securing Manual and in order to make it clear that Cargo Safe Access Plan (CSAP) is only required for container ships; and that a consolidated text of the draft Revised Guidelines, containing the draft amendments referred to above, be prepared by the Secretariat for submission to MSC 85 (paragraph 10.8 and annex 8);
 - .14 approve the draft MSC circular on Recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo holds (paragraph 11.11 and annex 9);
 - .15 approve the draft MSC circular on Recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo transport units (paragraph 11.13 and annex 10);
 - .16 note that the Sub-Committee finalized amendments to the International Convention for the safety of life at sea, 1974 (SOLAS), as amended with respect to matters falling under its purview and forwarded them to the FP Sub-Committee (co-ordinator) (paragraph 12.9 and annex 11);
 - .17 note that the Sub-Committee finalized amendments to the International code of safety for high-speed craft, 2000 (2000 HSC Code) with respect to matters falling under its purview and forwarded them to the FP Sub-Committee (co-ordinator) (paragraph 12.10 and annex 12);
 - .18 approve the draft MSC circular on Document of compliance with the special requirements for ships carrying dangerous goods under the provisions of regulation II-2/19 of the 1974 SOLAS Convention, as amended and of regulation 7.17 of HSC Code 2000, as amended (paragraph 12.11 and annex 13); and
 - .19 approve the report in general.
- 19.2 The Marine Environment Protection Committee, at its fifty-seventh session, is invited to:
- .1 note the Sub-Committee's decision in principle to amend chapter 3 of the IMDG Code to clarify the requirements of a "proper shipping name" as required by the IMDG Code as distinct from the "correct technical name" as required by MARPOL Annex III (paragraph 3.33);

- .2 endorse the course of action taken by the Sub-Committee, which was to approve, in principle, DSC.1/Circ.54 on Information on the amendments to the marine pollutant provisions, which will take effect through amendment 34-08 to the IMDG Code (paragraph 3.34); and
- .3 endorse the course of action taken by the Sub-Committee, which was to approve, in principle, DSC.1/Circ.55 on Guidance on the application of chapter 2.10 (Marine Pollutants) of the International Maritime Dangerous Goods (IMDG Code) (amendment 33-06) (paragraph 3.35).

ANNEX 1

DRAFT MSC CIRCULAR

CARRIAGE OF DANGEROUS GOODS

INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG) CODE

ANNEXES AND SUPPLEMENTS

Amendments to the Revised Emergency Response Procedures for Ships Carrying Dangerous Goods (EmS Guide)

1 The Maritime Safety Committee, at its eighty-fourth session ([...]), approved amendments to the revised Emergency Response Procedures for Ships Carrying Dangerous Goods (EmS Guide), set out in the annex.

2 Member Governments are invited to bring the annexed amendments to the revised EmS Guide to the attention of all concerned noting that amendment 34-08 (resolution MSC.[...]) is expected to enter into force on 1 January 2010; however, its provisions may be applied on a voluntary basis from 1 January 2009, as agreed to by MSC 75.

ANNEX

**AMENDMENTS TO REVISED EMERGENCY RESPONSE PROCEDURES FOR SHIPS
CARRYING DANGEROUS GOODS (EMS GUIDE) (MSC/CIRC.1025)**

1 In the index, the following entries in numerical order are added:

UN No.	EmS Fire	EmS Spill
0505	F-B	S-X
0506	F-B	S-X
0507	F-B	S-X
0508	F-B	S-Y
2031*	F-A	S-Q
2031**	F-A	S-B
3474	F-B	S-J
3475	F-E	S-E
3476	F-G	S-P
3477	F-A	S-B
2478	F-D	S-U
3479	F-D	S-U
3480	F-A	S-I
3481	F-A	S-I

* Applies to NITRIC ACID other than red fuming, with at least 65% but with not more than 70% nitric acid.

** Applies to NITRIC ACID other than red fuming, with less than 65% nitric acid.

ANNEX 2

JUSTIFICATION FOR A PROPOSED NEW WORK PROGRAMME ITEM (In accordance with MSC-MEPC.1/Circ.1)

REVIEW OF THE GUIDELINES FOR PACKING OF CARGO TRANSPORT UNITS

1 Scope of the proposal

The Guidelines for Packing Cargo Transport Units (CTU), amongst other instruments, supplement the IMDG Code. Section 4 of these Guidelines gives additional advice for packing and securing of dangerous cargoes and contains various references to the IMDG Code. To avoid confusion and misinterpretation these references should conform with the latest amendment of the IMDG Code.

2 Compelling need

The Guidelines for Packing Cargo Transport Units include references to the IMDG Code and therefore provide important information for the Guidelines' users with regard to the packing of dangerous goods. To keep this information aligned with the IMDG Code it is necessary to update the references.

3 Analysis of the issues involved, having regard to the costs to the maritime industry and global legislative and administrative burdens

Both instruments are linked. The CTU Packing Certificate is mandatory under the regime of the IMDG Code. Therefore deviating versions with respect to classification, marking and labelling of dangerous goods may lead to misinterpretation.

4 Benefits

Harmonization between different IMO instruments.
Increased level of safety.
Better acceptance of provisions of instruments.
Assist in the application of relevant instruments.

5 Priority and target completion dates

High priority, with the target completion date of 2008.

6 Specific indication of the action required

The Guidelines were approved by MSC 67 and, after endorsement by UNECE and ILO, were circulated as MSC/Circ.787 and were included in the Supplement to the IMDG Code as well. The first version was based on Amendment (28-96) of the IMDG Code.

In light of the amendments to the mandatory IMDG Code over the years, the Guidelines need to be aligned with the amended IMDG Code particularly annex 2 of the Guidelines relating to label/placard for class 5.2 and the fumigation warning sign which does not conform with the actual symbols required by the IMDG Code.

Future amendments of the IMDG Code should also be reflected in the Guidelines.

7 Remarks on the criteria for general acceptance

The subject of the proposal lies within the scope of IMO's objectives and relevant provisions of the strategic plan for the Organization and the High-level action plan. It is a matter of harmonization between different IMO instruments. Adequate industry standards do not exist. The benefits justify the proposed action.

8 Identification of which subsidiary bodies are essential to complete the work

The work can be accomplished by the Sub-Committee on Dangerous Goods, Solid Cargoes and Containers.

ANNEX 3**DRAFT RESOLUTION MSC...(85)
(adopted on ...)****ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CONVENTION FOR
THE SAFETY OF LIFE AT SEA, 1974, AS AMENDED**

THE MARITIME SAFETY COMMITTEE,

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

RECALLING FURTHER article VIII(b) of the International Convention for the Safety of Life at Sea (SOLAS), 1974 (hereinafter referred to as “the Convention”), concerning the amendment procedure applicable to the Annex to the Convention, other than the provisions of chapter I thereof,

RECOGNIZING the need to provide a mandatory application of the agreed International standards for the Carriage of Solid Bulk Cargoes by Sea,

HAVING CONSIDERED, at its [eighty-fifth] session, amendments to the Convention, proposed and circulated in accordance with article VIII(b)(i) thereof,

1. ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the Convention, the text of which is set out in the annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the said amendments shall be deemed to have been accepted on [1 July 2010], unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute no less than 50% of the gross tonnage of the world’s merchant fleet have notified their objections to the amendments;
3. INVITES SOLAS Contracting Governments to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on [1 January 2011] upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Contracting Governments to the Convention;
5. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its annex to members of the Organization, which are not Contracting Governments to the Convention.

ANNEX

**DRAFT AMENDMENTS TO THE INTERNATIONAL CONVENTION FOR THE
SAFETY OF LIFE AT SEA, 1974, AS AMENDED**

CHAPTER II-1

Construction – Structure, subdivision and stability, machinery and electrical installations

- 1 In regulation 3-3, the words “VII/8.2” and “VII/11.2” are replaced by “VII/13.2” and “VII/16.2”, respectively.

CHAPTER II-2

Construction – Fire Protection, fire detection and fire extinction

- 2 In regulation 1.6.2, the words “VII/8.1” and “VII/11.1” are replaced by “VII/13.1” and “VII/16.1”, respectively.
- 3 In regulation 3.11, the word “VII/8.1” is replaced by “VII/13.1”.
- 4 In regulation 3.25, the word “VII/11.1” is replaced by “VII/16.1”.
- 5 In regulation 19, note 10 of table 19.2, the text “A.434(XI)” is replaced with the text “[MSC...(85)]”.
- 6 In regulation II-2/19.3.4, revise the title to read “Ventilation arrangement”

CHAPTER VI

Carriage of cargoes

Part A

General provisions

- 7 A new regulation 1 is inserted and the following regulations renumbered.

“Regulation 1

Definitions

For the purpose of this chapter, unless expressly provided otherwise:

- 1 *BC Code* means the Code of Safe Practice for Solid Bulk Cargoes adopted by the Maritime Safety Committee of the Organization by resolution [MSC...(85)], as may be amended by the Organization, provided that such amendments are adopted, brought into force and take effect in accordance with the provisions of article VIII of the present Convention concerning the amendment procedures applicable to the annex other than chapter I.

2 *Solid bulk cargo* means any cargo, other than liquid or gas, consisting of a combination of particles, granules or any larger pieces of material generally uniform in composition, which is loaded directly into the cargo spaces of a ship without any intermediate form of containment.”

8 A new regulation 3 is inserted and the following regulations renumbered.

“Regulation 3

Requirements for the carriage of solid bulk cargoes other than grain

The carriage of solid bulk cargoes other than grain shall be in compliance with the relevant provisions of the BC Code.”

9 Regulation 4.2.2 is replaced by the following text:

“.2 in the case of solid bulk cargo, information as required by section 4 of the BC Code.”

10 Regulation 4.2.3 is deleted.

11 In regulation 5.1, the word “solid” is inserted in the first sentence after the words “When transporting a”.

Part B

Special provisions for bulk cargoes other than grain

12 In the heading of this part, the word “solid” is inserted after “Special provisions for” and the text “other than grain” is deleted.

13 In regulation 8.1, the word “solid” is inserted in the first sentence after “Prior to loading a”.

14 Regulations 8.2 and 8.3 are deleted.

15 In regulation 9, the text “solid” is inserted in the heading after the words “*Loading, unloading and stowage of*”.

15 *Regulations 9.4 and 9.5 are deleted and the subsequent regulations renumbered.*

CHAPTER VII

Carriage of dangerous goods

- 16 Parts A-1 to D are re-lettered Parts B to E
- 17 Regulations 7-1, 7-2, 7-3 and 7-4 are renumbered to regulations 8, 10, 11 and 12, respectively, and the remaining regulations are renumbered.
- 18 In regulation 8.3 the text “detailed instructions on the safe carriage of dangerous goods in solid form in bulk which shall include” is deleted.
- 19 The following new regulation 9 is inserted after renumbered regulation 8.

“Regulation 9

Requirements for the carriage of dangerous goods in solid form in bulk

The carriage of dangerous goods in solid form in bulk shall be in compliance with the relevant provisions of the BC Code, as defined in regulation VI/1.1.”

CHAPTER IX

Management for the safe operation of ships

- 20 In regulation 1.4, the word “VII/8.2” is replaced by “VII/13.2”.
- 21 In regulation 1.5, the word “VII/11.2” is replaced by “VII/16.2”.

CHAPTER XI-2

Special measures to enhance maritime security

- 22 In regulation 1.1.2, the word “VII/8.2” is replaced by “VII/13.2”.
- 23 In regulation 1.1.3, the word “VII/11.2” is replaced by “VII/16.2”.

CHAPTER XII

Additional safety measures for bulk carriers

- 24 In regulation 8.1, the words “VI/7.2” are replaced by “VI/9.2”.
- 25 In regulation 10.1, the words “VI/2” are replaced by “VI/4”.

ANNEX 4

**DRAFT RESOLUTION MSC.[...(85)]
(adopted on [... November 2008])****ADOPTION OF THE MANDATORY INTERNATIONAL MARITIME
SOLID BULK CARGOES (IMSBC) CODE**

THE MARITIME SAFETY COMMITTEE,

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

NOTING the adoption by the Committee of resolution MSC.193(79) on the Code of Safe Practice for Solid Bulk Cargoes (BC Code),

RECOGNIZING the need to provide a mandatory application of the agreed international standards for the carriage of solid bulk cargoes by sea,

NOTING ALSO resolution MSC.[...(85)] by which it adopted amendments to chapters VI and VII of the International Convention for the Safety of Life at Sea (SOLAS) 1974, as amended (hereinafter referred to as “the Convention”), to make the provisions of the BC Code, mandatory under the Convention,

HAVING CONSIDERED, at its [eighty-fifth] session, the text of the proposed BC Code,

1. ADOPTS the International Maritime Solid Bulk Cargoes (IMSBC) Code, as prepared by the Sub-Committee on Dangerous Goods, Solid Cargoes at its twelfth session, the text of which is set out in the Annex to the present resolution;
2. NOTES that, under the aforementioned amendments to chapter VI of the Convention, future amendments to the IMSBC Code shall be adopted, brought into force and shall take effect in accordance with the provisions of article VIII of the Convention concerning the amendments procedures applicable to the Annex to the Convention other than chapter I thereof;
3. INVITES Contracting Governments to the Convention to note that the IMSBC Code will take effect on [1 January 2011] upon entry into force of amendments to chapters VI and VII of the Convention;
4. AGREES that Contracting Governments to the Convention may apply the IMSBC Code in whole or in part on a voluntary basis as from [1 January 2009];
5. REQUESTS the Secretary-General to transmit certified copies of this resolution and its Annex to all Contracting Governments to the Convention;
6. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its Annex to all Members of the Organization which are not Contracting Governments to the Convention;
7. NOTES that the annexed IMSBC Code supersedes the existing Code adopted by resolution MSC.193(79).

ANNEX

**DRAFT TEXT OF THE MANDATORY INTERNATIONAL MARITIME SOLID BULK
CARGOES (IMSBC) CODE**

(Draft text of the mandatory IMSBC Code may be found in document DSC 12/19/Add.1)

ANNEX 5

**DRAFT RESOLUTION MSC...(85)
(adopted on ...)****ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CODE FOR THE SAFE
CARRIAGE OF PACKAGED IRRADIATED NUCLEAR FUEL, PLUTONIUM AND
HIGH-LEVEL RADIOACTIVE WASTES ON BOARD SHIPS, AS AMENDED**

THE MARITIME SAFETY COMMITTEE,

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

NOTING resolution MSC.88(71), by which it adopted the International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships (hereinafter referred to as “the INF Code”), which has become mandatory under chapter VII of the International Convention for the Safety of Life at Sea (SOLAS), 1974 (hereinafter referred to as “the Convention”),

NOTING ALSO article VIII(b) and regulation VII/14.1 of the Convention concerning the procedure for amending the INF Code,

HAVING CONSIDERED, at its eighty-fifth session, amendments to the INF Code proposed and circulated in accordance with article VIII(b)(i) of the Convention,

1. ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the INF Code, the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments shall be deemed to have been accepted on [1 July 2010] unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world’s merchant fleet, have notified their objections to the amendments;
3. INVITES Contracting Governments to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on [1 January 2011] upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;
5. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its Annex to Members of the Organization, which are not Contracting Governments to the Convention.

ANNEX

**DRAFT AMENDMENTS TO THE INTERNATIONAL CODE FOR THE SAFE
CARRIAGE OF PACKAGED IRRADIATED NUCLEAR FUEL, PLUTONIUM AND
HIGH-LEVEL RADIOACTIVE WASTES ON BOARD SHIPS**

Chapter 1 – General

- 1 In regulation 1.1.1.8, the text “VII/8.1” is replaced by the text “VII/13.1”.
- 2 In regulation 1.2.1, the text “VII/15” is replaced by the text “VII/20”.

Chapter 11 – Notification in the event of an incident involving INF cargo

- 3 In regulation 11.1, the text “VII/7-1” is replaced by the text “VII/8”.

ANNEX 6**DRAFT AMENDMENTS TO THE CODE OF SAFE PRACTICE
FOR CARGO STOWAGE AND SECURING (CSS CODE)**

DRAFT NEW ANNEX [...]

**GUIDANCE ON PROVIDING SAFE WORKING CONDITIONS
FOR SECURING OF CONTAINERS****1 AIM**

To ensure that persons engaged in carrying out container securing operations have safe working conditions and, in particular safe access, appropriate securing equipment and safe places of work. These requirements should be taken into account at the design stage when securing systems are devised. These guidelines provide ship-owners, ship builders, classification societies, Administrations and ship designers with guidance on producing or authorizing a Cargo Safe Access Plan (CSAP).

2 SCOPE

Ships which are specifically designed and fitted for the purpose of carrying containers.

3 DEFINITIONS

- 3.1 *Administration* means the Government of the State whose flag the ship is entitled to fly.
- 3.2 *Securing* includes unsecuring.
- 3.3 *Fencing* is a generic term for guardrails safety rails, safety barriers and similar structures that provide protection against the falls of persons.
- 3.4 *Stringers* are the uprights or sides of a ladder.

4 GENERAL**4.1 Introduction**

4.1.1 Injuries to dockworkers onboard visiting ships account for the majority of accidents that occur within container ports, with the most common activity that involves such injuries being the lashing/unlashing of deck containers. Ships crew engaged in securing operations face similar dangers.

4.1.2 During the design and construction of container ships the provision of a safe place of work for the crew and dockworkers should be considered as of equal importance to the container capacity.

4.1.3 Container shipowners and designers are reminded of the dangers associated with container securing operations and urged to develop and use container securing systems which are safe by design. The aim should be to eliminate the need for:

- .1 container top work;
- .2 work in other equally hazardous locations; and
- .3 the handling by crew or dockworkers of heavy and unwieldy securing equipment.

4.1.4 It should be borne in mind that providing safe working conditions for securing containers deals with matters relating to design, operation, and maintenance, and that the problems on large container ships are not the same as on smaller ones.

4.2 Recommendations on safety of personnel during container securing operations (MSC/Circ.886)

4.2.1 Shipowners, ship designers and Administrations should take into account the recommendations on safe design of securing arrangements contained in these guidelines, and in the Recommendations on safety of personnel during container securing operations (MSC/Circ.886).

4.3 Cargo Safe Access Plan (CSAP)

4.3.1 The CSS Code requires ships which are specifically designed and fitted for the purpose of carrying containers to have an approved Cargo Safe Access Plan (CSAP) on board, for all areas where containers are secured.

4.3.2 Stakeholders, including, but not limited to shipowners, ship designers, ship builders, administrations and classification societies, should be involved at an early stage in the design of securing arrangements on containerships and in the development of the CSAP.

4.3.3 The CSAP should be developed at the design stage in accordance with chapter 5 of annex to the circular MSC/Circ.[...].

4.3.4 Designers should incorporate the requirements of this annex into the CSAP so that safe working conditions can be maintained during all anticipated configurations of container stowage.

4.4 Training

4.4.1 Personnel engaged in cargo securing operations should be trained in the lashing/unlashing of containers as necessary to complete their duties in a safe manner.

4.4.2 Personnel engaged in cargo securing operations should be fully trained to develop the knowledge, psychomotor and attitude skills that they require to do their job safely and efficiently, as well as to develop general safety awareness¹, and to recognize and avoid potential dangers.

¹ Safety and health in ports, ILO Code of Practice, section 2.6.2.

4.4.3 Training should include situational awareness to identify and avoid hazards.

4.4.4 Personnel should be suitably trained in lashing operations using the different types of lashing equipment that they will be expected to use.

4.4.5 Personnel should be trained in safe systems of work. Where personnel are involved in working at heights, they should be trained in the use of fall restraint equipment.

5 SAFE ACCESS AND CARGO SECURING REQUIREMENTS

5.1 Administrations should ensure that:

- .1 lashing plans contained within the approved Cargo Securing Manual are compatible with the current design of the ship and the intended container securing method is both safe and physically possible;
- .2 the Cargo Securing Manual, lashing plans and the Cargo Safe Access Plan (CSAP) are kept up to date; and
- .3 lashing plans are compatible with the design of the vessel and the equipment available.

5.2 Shipowners and operators should ensure that:

- .1 portable cargo securing devices should be certified and assigned with an MSL. The MSL should be documented in the cargo securing manual as required by the CSS Code; and
- .2 the operational requirements of this annex are complied with.

5.3 Container ship terminal operators should ensure that the requirements of section 6.3 of this annex are complied with.

6 RESPONSIBILITIES

6.1 Designers

Should follow design requirements of these guidelines.

6.2 Shipbuilders

Should follow design requirements of these guidelines.

7 DESIGN

7.0 General design considerations

7.0.1 Risk assessments should be performed at the design stage taking into account the requirements of this annex to ensure that securing operations can be safely carried out in all anticipated container configurations. This assessment should be conducted with a view toward developing the Cargo Safe Access Plan (CSAP). Hazards to be assessed should include:

- .1 slips, trips and falls;
- .2 falls from height;
- .3 injuries whilst manually handling lashing gear;
- .4 being struck by falling lashing gear or other objects; and
- .5 identification of areas subject to a high risk of damage due to container operations.

7.0.2 Shipbuilders should collaborate with designers of securing equipment in conducting risk assessments and ensure that the following basic criteria are adhered to when building container ships.

7.0.3 Ship designers should ensure that container securing operations performed in outer positions can be accomplished safely.

7.0.4 The space provided between the container stows for workers to carry out lashing operations should provide:

- .1 a firm and level working surface;
- .2 a working area, excluding lashings in place, preferably 1 m, but not less than 750 mm wide, to provide a clear sight of twist lock handles and allow for the manipulation of lashing gear;
- .3 sufficient space to permit the lashing gear and other equipment to be stowed without causing a tripping hazard;
- .4 sufficient space between the fixing points of the lashing bars on deck, or on the hatch covers, to tighten the turnbuckles;
- .5 access in the form of ladders on hatch coamings;
- .6 safe access to lashing platforms;
- .7 protective fencing on lashing platforms²; and
- .8 adequate lighting in line with these guidelines.

7.1 Provisions for safe access

7.1.1 General provisions

7.1.1.1 The minimum clearance for transit areas should be 2 m high and 600 mm wide.

² An appropriate design is given in Safety and health in ports, ILO Code of Practice, section 3.3.4.

7.1.1.2 All relevant deck surfaces used for movement about the ship and all passageways and stairs should have non-slip surfaces.

7.1.1.3 Where necessary for safety, walkways on deck should be delineated by painted lines or otherwise marked by pictorial signs.

7.1.2 *Lashing platform design*

7.1.2.1 Platforms designed to eliminate or greatly reduce the use of three high lashing bars and provide efficient vertical stowage of the bars along the platform are preferred. Platforms should be designed to provide a clear work area, unencumbered by deck piping and other obstructions and take into consideration:

- .1 containers must be capable of being stowed within safe reach of the workers using the platform; and
- .2 the work area size and the size of the securing components used.

7.1.2.2 Permanent lashing platforms should be at least 1 m, but not less than 750 mm, wide.

7.1.2.3 Portable or removable lashing platforms should be at least 1 m, but no less than 750 mm wide, taking into account whether one, two or three high lashings are required and sufficiently strengthened to prevent springing or warping. These removable sections should be capable of being temporarily secured into position with fall protection.

7.1.2.4 Appropriate toe boards (or kick plates) should be provided around the sides of all platforms to prevent securing equipment from falling and injuring people.

7.1.2.5 Access to working areas should be designed to ensure there are no gaps through which people can fall.

7.1.2.6 There should be no obstructions, such as lashing bar storage bins or guides to land hatch lids, on working platforms.

7.1.3 *Fencing design*

7.1.3.1 Elevated platforms, where appropriate, should be fenced. As a minimum, fencing design should take into consideration:

- .1 the strength and height of the rails should be designed to prevent workers from falling;
- [.2 the flexibility of the fencing placement gaps within specified parameters based on the containers expected to be stowed in the adjacent locations; [to be clarified]
- .3 provisions for locking and removal of fencing as operational situations change based on stowage anticipated for that area]; and
- .4 damage to fencing and how to prevent failure due to that damage.

7.1.3.2 As a minimum, the top rail of fencing should be 1 m high from the base, with an intermediate rail at 500 mm.

7.1.3.3 Where possible fences and handrails should be highlighted with a contrasting colour to the background.

7.1.3.4 Athwartships cargo securing walkways should be protected by adequate fencing if an unguarded edge exists when the hatch cover is removed.

7.1.4 *Ladder and manhole design*

7.1.4.1 Where a fixed ladder gives access to the outside of a platform, the stringers should be connected at their extremities to the guardrails of the platform, irrespective of whether the ladder is sloping or vertical.

7.1.4.2 Where a fixed ladder gives access to a platform through an opening in the platform, the opening shall be protected with either a fixed grate with a lock back mechanism, which can be closed after access, or fencing. Grabrails should be provided to ensure safe access through the opening.

7.1.4.3 Where a fixed ladder gives access to a platform from the outside of the platform, the stringers of the ladder should be opened above the platform level to give a clear width of 700 to 750 mm to enable a person to pass through the stringers.

7.1.4.4 A fixed ladder should not slope at an angle greater than 25° from the vertical. Where the slope of a ladder exceeds 15° from the vertical, the ladder should be provided with suitable handrails not less than 540 mm apart, measured horizontally.

7.1.4.5 A fixed vertical ladder of a height exceeding 3 m, and any fixed ladder less than 3 m high, from which a person may fall into a hold should be fitted with guard hoops, which should be constructed as follows:

7.1.4.6 The ladder hoops should be uniformly spaced at intervals not exceeding 900 mm and should have a clearance of 750 mm from the rung to the back of the hoop and be connected by longitudinal strips secured to the inside of the hoops, each equally spaced round the circumference of the hoop.

7.1.4.7 The stringers should be carried above the floor level of the platform by at least 1 m and the ends of the stringers should be given lateral support and the top step or rung should be level with the floor of the platform unless the steps or rungs are fitted to the ends of the stringers.

7.1.4.8 As far as practicable, access ladders and walkways, and work platforms should be designed so that workers do not have to climb over piping or work in areas with permanent obstructions.

7.1.4.9 There should be no unprotected openings in any part of the workplace. Access opening must be protected with handrails or access covers that can be locked back during access.

7.1.4.10 As far as practicable, manholes should not be situated in transit areas, however, if they are, proper fencing should protect them.

7.1.4.11 Access ladders and manholes should be large enough for persons to safely enter and leave.

7.2 Lashing systems

7.2.1 General provisions

Lashing systems, including tensioning devices, should comply with the following criteria:

- .1 strength and height should be sufficient to prevent workers falling;
- .2 alternative container stowage configurations and the need to provide fencing as operational conditions change;
- .3 damage to fencing and how to prevent failure due to that damage; and
- .4 temporary fittings should be of adequate strength and capable of being securely installed.

7.2.2 Twistlock design

7.2.2.1 Ships should ensure that the number of different types of twistlocks provided for cargo securing is kept to a minimum and clear instructions are provided for their operation. The use of too many different types of twistlocks may lead to confusion as to whether the twistlocks are locked.

7.2.2.2 The design of twistlocks should ensure the following:

- .1 positive locking with easy up and down side identification;
- .2 dislodging from corner fitting is not possible even when grazing a surface;
- .3 access and visibility of the unlocking device is user friendly;
- .4 unlocked positions are easily identifiable and do not relock inadvertently due to jolting or vibration; and
- .5 Unlocking poles are as light as possible and user friendly.

7.2.3 Lashing rod design

7.2.3.1 The design of container ship securing systems should take into account the practical abilities of the workers to lift, reach, hold, control and connect the components called for in all situations anticipated in the cargo securing plan.

7.2.3.2 The maximum length of a lashing bar which is sufficient to reach the lower corner of a high cube container on the third tier should be 5200 mm.

7.2.3.3 The weight of lashing bars should be minimized as low as possible consistent with the necessary mechanical strength to a level as low as practicable.

7.2.3.4 The head of the lashing bar that is inserted in the corner fitting should have a pivot/hinge or other appropriate design so that the bar does not come out of the corner fitting accidentally.

7.2.3.5 The bars length in conjunction with the length and design of the turnbuckle should be such that the need of extensions is eliminated when lashing high cube (9' 6") containers.

7.2.3.6 Light weight bars should be provided where special tools are needed to lash high cube containers.

7.2.4 *Storage bins and lashing equipment stowage design*

7.2.4.1 Bins or stowage places for lashing materials should be provided.

7.2.4.2 Bins for faulty or damaged gear should also be provided and appropriately marked. A lighting plan should be developed to provide for:

7.3 Lighting design

7.3.1 The proper illumination of access ways³, taking into account the shadows created by containers that may be stowed in the area to be lit, for example different length containers in or over the work area.

7.3.2 A separate fixed lighting system for each working space between the container bays, which is bright enough⁴ for the work to be done, but minimizes glare to the deck workers.

7.3.3 Such illumination should, where possible, be designed as a permanent installation and adequately guarded against breakage.

7.3.4 The illumination intensity should take into consideration the distance to the uppermost reaches where cargo securing equipment is utilized.

8 OPERATIONAL AND MAINTENANCE PROCEDURES

Procedures for safe lashing and securing operations should be included in the ships Safety Management System as part of the ISM Code documentation.

³ Not less than 10 lux, 1 ft. candle.

⁴ Not less than 50 lux, 5 foot candles (Safety and health in ports, ILO Code of Practice, section 7.1.5).

8.1 Failure to provide safe lashing stations onboard/carry out lashing by port workers

8.1.1 Where there are lashing and unlashings locations onboard ship where no fall protection, such as adequate handrails are provided, and no other safe method can be found, the containers should not be lashed or unlashings and the situation should be reported to shore side supervisor and the master or deck officer immediately.

8.1.2 If protective systems cannot be designed to provide safe protected access and lashing work positions, in all cargo configurations then cargo should not be stowed in that location. Neither crew nor shore workers should be subjected to hazardous working conditions in the normal course of securing cargo.

8.2 Container deck working

8.2.1 Transit areas should be safe and clear of cargo and all equipment.

8.2.2 Any necessarily unprotected openings in work platforms (i.e. those with a potential fall of less than 2 m), and gaps and apertures on deck should be properly highlighted.

8.2.3 The use of fencing is essential to prevent falls. When openings in safety barriers are necessary to allow container crane movements, particularly with derricking cranes, removable fencing should be used whenever possible.

8.2.4 It should be taken into account that when lifting lashing bars that can weigh between 11 and 21 kg and turnbuckles between 16 and 23 kg, there may be a risk of injury if handled above shoulder height with the arms extended. It is therefore recommended that personnel work in pairs to reduce the individual workload in securing the lashing gear.

8.2.5 It is recommended when handling such heavy weights that the lifter use their body weight to raise the bar to an upright position which will allow the large muscles of the legs to take most of the weight keeping a firm grip and a straight back.

8.2.6 Personnel engaged in container ship cargo operations should wear appropriate PPE whilst carrying out lashing operations.

8.2.7 Personnel engaged in container ship cargo operations should be familiarized with the ship's unique characteristics and potential hazards arising from such operations necessary to carry out their duties.

8.2.8 The ship's crew must be properly trained to use the equipment provided and recognize and avoid potential hazards and be familiar with the vessel layout.

8.3 Maintenance

8.3.1 In line with section 2.3 (Inspection and maintenance schemes) of the Revised Guidelines for the preparation of the cargo securing manual (MSC/Circ....) all ships should maintain a record book, which should contain the procedures for accepting, maintaining and repairing or rejecting of cargo securing devices. The record book should also contain a record of inspections.

8.3.2 Lighting should be properly maintained.

8.3.3 Walkways, ladders, stairways and fencings should be subject to a periodic maintenance programme which will reduce/prevent corrosion and prevent subsequent collapse.

8.3.4 Corroded walkways, ladders, stairways and fencings should be repaired/replaced as soon as practicable, except where it interferes with safe operations. In such cases repairs should be effected immediately.

9 SPECIALIZED CONTAINER SAFETY DESIGN

9.1 Reefer Power Outlets should be interlocked and shipboard terminals provide a safe, watertight electrical connection.

9.2 Reefer power outlets should feature a heavy duty, interlocked and circuit breaker protected electrical power outlet. This should ensure the outlet can not be switched 'live' until a plug is fully engaged and the actuator rod is pushed to the 'On' position. Pulling the actuator rod to the 'Off' position should manually de-energize the circuit.

9.3 The reefer power circuit should de-energize automatically if the plug is accidentally withdrawn while in the 'On' position. Also, the interlock mechanism should break the circuit while the pin and sleeve contacts are still engaged. This provides total operator safety and protection against shock hazard while eliminating arcing damage to the plug and receptacle.

9.4 Reefer power outlets should be designed to ensure that the worker is not standing directly in front of the socket when switching takes place.

9.5 The positioning of the reefer feed outlets should not be such that the flexible cabling needs to be laid out in such a way as to cause a tripping hazard.

9.6 Stevedores or ships crew who are required to handle reefer cables and/or connect and disconnect reefer units should be given training in recognizing defective wires and plugs.

10 REFERENCES

ILO Code of Practice – Safety and Health in Ports

ISO Standard 3874 – The Handling and Securing of Type 1 Freight Containers

ANNEX 7**DRAFT MSC CIRCULAR****REVISED RECOMMENDATIONS ON SAFETY OF PERSONNEL DURING
CONTAINER SECURING OPERATIONS**

1 The Maritime Safety Committee, at its seventieth session (7 to 11 December 1998) expressed serious concern at the dangers to personnel working at the top of containers during container securing operations, which result from container securing arrangements being located in difficult and dangerous locations, and approved the Recommendation on safety of personnel during container securing operations, as set out in the annex.

2 The Maritime Safety Committee at its [eighty fourth] session (... May 2008) also expressed concern at the dangers to personnel engaged in the operation of securing containers at deck level and approved recommendations, as set out in Annex [...] of the Code of Safe Practice for Cargo Stowage and Securing.

3 Member Governments are invited to bring these Recommendations to the attention of port authorities, containership owners, designers and all other parties concerned and to consider other positive measures to address this problem in port and when approving cargo securing arrangements, as appropriate.

ANNEX

REVISED RECOMMENDATION ON SAFETY OF PERSONNEL DURING CONTAINER SECURING OPERATIONS

1 It has been noted that a number of fatal accidents to crew and dockworkers have involved falls from the top of containers during container securing and unsecuring operations. Although fall protection and fall arrest systems and equipment are available for use whenever container top work is involved, they are cumbersome and reduce the speed of loading and unloading operations of a ship, and thus of limited use and effect.

2 The conventional means of securing containers in non-cellular deck spaces are heavy and difficult to handle, resulting in accidents and non-fatal physical injuries. Newly developed equipment such as semi-automatic and dual function twistlocks are only partially effective in eliminating danger. They depend on the stacking height of containers on deck not exceeding four and require a safe work place on the quayside for their application or removal.

3 A safer environment for personnel involved in the securing of containers can be achieved by shipowners and ship designers focusing on the safety of container securement at the initial stages of the building of a ship, rather than relying on operational methods for this purpose after the ship is built. Such successful current design ideas include:

.1 Hatchless holds

These containership designs usually have cell guides to the full height of stowage and do not normally require container top working.

.2 Flexible boxship arrangements

These designs are involved on deck cell guides which can be altered in length to accommodate the different lengths of container currently used in the industry, e.g. 20, 30 or 40 feet.

.3 Deck cell guides

This usually means either “hatchless holds” or a hatchless ship, but designs exist with cell guides on deck but also with hatch covers. Although deck cell guides have a good safety and securement record, they can create operational inconvenience when loading the varying lengths of container that are commonly in use.

.4 Lashing frames

These are mobile personnel carriers by which lashing personnel work on the twistlocks without having to climb upon the container tops. These are often used from container gantries but are operationally more convenient when independent of the shore gantries so that lashing/unlashing can continue without interfering with, and causing delay to, the loading/unloading operation.

.5 Lashing platform

These are permanent or partly mobile platforms, whereby access to deck twistlocks, etc., can be achieved without having to climb on the top of the container.

4 In addition to these alternative arrangements, new and equally effective concepts are likely to evolve if increased attention is given to the achievement of safe securing and unsecuring of containers at the ship design stage instead of relying upon operational methods for this purpose. If the process of securing is made safer for the personnel involved and more efficient, a reduction in the loss of containers overboard will provide financial and environmental benefits.

5 Containership owners and designers are therefore reminded of the dangers associated with container securing operations and urged to use and develop container securing systems which are safe by design, with the aim of eliminating the need for container top work, work in other equally hazardous locations, or the handling by crew or dock workers of heavy and unwieldy securing equipment.

6 Information provided by document MSC 80/21/7 (United Kingdom) indicated an increase in injuries arising from the operation of lashing containers at deck level. Research in the United Kingdom has shown that 40% of accidents to dockworkers occur onboard ships and the majority of these are related to lashing activities on container ships. In many cases the design and layout of lashing arrangements on such ships take insufficient account of the safety of the crew and dockworkers required to handle the lashing equipment. As a consequence, a new annex to the CSS Code has been adopted and all relevant parties are urged to reflect it in their provisions.

7 Personnel engaged in securing operations should be familiarized with the unique vessel characteristics and potential hazards arising from such operations. Training should include situational awareness to identify and avoid hazards.

ANNEX 8

**DRAFT AMENDMENTS TO THE REVISED GUIDELINES FOR THE
PREPARATION OF THE CARGO SECURING MANUAL (MSC/CIRC.745),
AS CONTAINED IN ANNEX 1 TO DOCUMENT DSC 12/10**

ANNEX

**REVISED GUIDELINES FOR THE PREPARATION OF
THE CARGO SECURING MANUAL**

CHAPTER 5 – CARGO SAFE ACCESS PLAN (CSAP)

1 The first sentence of paragraph 5.1 is replaced as follows:

“5.1 Ships which are specifically designed and fitted for the purpose of carrying containers should be provided with a Cargo Safe Access Plan (CSAP) in order to demonstrate that personnel will have safe access for container securing operations.”

ANNEX 9**DRAFT MSC CIRCULAR****RECOMMENDATIONS ON THE SAFE USE OF PESTICIDES IN SHIPS
APPLICABLE TO THE FUMIGATION OF CARGO HOLDS**

- 1 The Maritime Safety Committee, at its sixty-second session (24 to 28 May 1993), approved the Recommendations on the safe use of pesticides in ships (MSC/Circ.612), proposed by the Sub-Committee on Containers and Cargoes at its thirty-second session.
- 2 The Maritime Safety Committee, at its [eighty-fourth] session (... 2008), approved the Recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo holds, which apply to carriage of solid bulk cargoes including grain in pursuance of the requirement of SOLAS regulation VI/4, proposed by the Sub-Committee on Dangerous Goods, Solid Cargoes and Containers at its twelfth session, as set out in the annex to the present circular.
- 3 The Committee agreed that the Recommendations should not apply to the carriage of fresh food produce under controlled atmosphere.
- 4 Member Governments are invited to bring the Recommendations to the attention of competent authorities, mariners, fumigators, fumigant and pesticide manufacturers and others concerned.
- 5 The present circular supersedes MSC/Circ.612, as amended by MSC/Circ.689 and MSC/Circ.746 with regard to the fumigation of cargo holds.

ANNEX

RECOMMENDATIONS ON THE SAFE USE OF PESTICIDES IN SHIPS APPLICABLE TO THE FUMIGATION OF CARGO HOLDS

1 INTRODUCTION

1.1 Insect and mite pests of plant and animal products may be carried into the cargo holds with goods (introduced infestation); they may move from one kind of product to another (cross-infestation) and may remain to attack subsequent cargoes (residual infestation). Their control may be required to comply with phytosanitary requirements to prevent spread of pests and for commercial reasons to prevent infestation and contamination of, or damage to, cargoes of human and animal food both raw and processed materials. Although fumigants may be used to kill rodent pests, the control of rodents on board ships is dealt with separately. In severe cases of infestation of bulk cargoes such as cereals, excessive heating may occur.

1.2 The following sections provide guidance to shipmasters in the use of pesticides* with a view to safety of personnel. They cover pesticides used for the control of insect** and rodent pests in empty and loaded cargo holds.

2 PREVENTION OF INFESTATION

2.1 Maintenance and sanitation

2.1.1 Ship cargo holds, tank top ceilings and other parts of the ship should be kept in a good state of repair to avoid infestation. Many ports of the world have rules and by-laws dealing specifically with the maintenance of ships intended to carry grain cargoes; for example, boards and ceilings should be completely grain-tight.

2.1.2 Cleanliness, or good housekeeping, is as important a means of controlling pests on a ship as it is in a home, warehouse, mill or factory. Since insect pests on ships become established and multiply in debris, much can be done to prevent their increase by simple, thorough cleaning. Box beams and stiffeners, for example, become filled with debris during discharge of cargo and unless kept clean can become a source of heavy infestation. It is important to remove thoroughly all cargo residue from deckhead frames and longitudinal deck girders at the time of discharge, preferably when the cargo level is suitable for convenient cleaning. Where available, industrial vacuum cleaners are of value for the cleaning of cargo holds and fittings.

2.1.3 The material collected during cleaning should be disposed of, or treated, immediately so that the insects cannot escape and spread to other parts of the ship or elsewhere. In port it may be burnt or treated with a pesticide, but in many countries such material may only be landed under phytosanitary supervision. If any part of the ship is being fumigated the material may be left exposed to the gas.

* The word *pesticide* as used throughout the text means fumigants. Examples of some commonly used pesticides are listed in appendix 1.

** The word *insect* as used throughout the text includes mites.

2.2 Main sites of infestation

2.2.1 *Tank top ceiling*: If, as often happens, cracks appear between the ceiling boards, food material may be forced down into the underlying space and serve as a focus of infestation for an indefinite period. Insects bred in this space can readily move out to attack food cargoes and establish their progeny in them.

2.2.2 *'Tween-deck centre lines, wooden feeders and bins* are often left in place for several voyages and because of their construction are a frequent source of infestation. After unloading a grain cargo, burlap and battens covering the narrow spaces between the planks should be removed and discarded before the holds are cleaned or washed down. These coverings should be replaced by new material in preparation for the next cargo.

2.2.3 *Transverse beams and longitudinal deck girders* which support the decks and hatch openings may have an L-shaped angle-bar construction. Such girders provide ledges where grain may lodge when bulk cargoes are unloaded. The ledges are often in inaccessible places overlooked during cleaning operations.

2.2.4 *Insulated bulkheads near engine-rooms*: When the hold side of an engine-room bulkhead is insulated with a wooden sheathing, the airspace and the cracks between the boards often become filled with grain and other material. Sometimes the airspace is filled with insulating material which may become heavily infested and serves as a place for insect breeding. Temporary wooden bulkheads also provide an ideal place for insect breeding, especially under moist conditions, such as when green lumber is used.

2.2.5 *Cargo battens*: The crevices at the sparring cleats are ideal places for material to lodge and for insects to hide.

2.2.6 *Bilges*: Insects in accumulations of food material are often found in these spaces.

2.2.7 *Electrical conduit casings*: Sometimes the sheet-metal covering is damaged by general cargo and when bulk grain is loaded later, the casings may become completely filled. This residual grain has often been found to be heavily infested. Casings that are damaged should be repaired immediately or, where possible, they should be replaced with steel strapping, which can be cleaned more easily.

2.2.8 Other places where material accumulates and where insects breed and hide include:

The area underneath burlap, which is used to cover limber boards and sometimes to cover tank top ceilings.

Boxing around pipes, especially if it is broken.

Corners, where old cereal material is often found.

Crevices at plate landings, frames and chocks.

Wooden coverings of manholes or wells leading to double-bottom tanks or other places.

Cracks in the wooden ceiling protecting the propeller shaft tunnel.

Beneath rusty scale and old paint on the inside of hull plates.

Shifting boards.

Dunnage material, empty bags and used separation cloths.

Inside lockers.

3 CHEMICAL CONTROL OF INSECT INFESTATION

3.1 Methods of chemical disinfection

3.1.1 *Types of pesticides and methods of insect control*

3.1.1.1 To avoid insect populations becoming firmly established in cargo holds and other parts of a ship, it is necessary to use some form of chemical toxicant for control. The materials available may be divided conveniently into two classes: contact insecticides and fumigants. The choice of agent and method of application depend on the type of commodity, the extent and location of the infestation, the importance and habits of the insects found, and the climatic and other conditions. Recommended treatments are altered or modified from time to time in accordance with new developments.

3.1.1.2 The success of chemical treatments does not lie wholly in the pesticidal activity of the agents used. In addition, an appreciation of the requirements and limitations of the different available methods is required. Crew members can carry out small-scale or “spot” treatments if they adhere to the manufacturer’s instructions and take care to cover the whole area of infestation. However, extensive or hazardous treatments including fumigation and spraying near human and animal food should be placed in the hands of professional operators, who should inform the master of the identity of the active ingredients used, the hazards involved and the precautions to be taken.

3.1.2 *Fumigants*

3.1.2.1 Fumigants act in a gaseous phase even though they may be applied as solid or liquid formulations from which the gas arises. Effective and safe use requires that the space being treated be rendered gastight for the period of exposure, which may vary from a few hours to several days, depending on the fumigant type and concentration used, the pests, the commodities treated and the temperature. Additional information is provided on two of the most widely used fumigants, Methyl bromide and Phosphine, in appendix 1.

3.1.2.2 Since fumigant gases are poisonous to humans and require special equipment and skills in application, they should be used by specialists and not by the ship’s crew.

3.1.2.3 Evacuation of the space under gas treatment is mandatory and in some cases it will be necessary for the whole ship to be evacuated (see 3.3.1 and 3.3.2 below).

3.1.2.4 A “fumigator-in-charge” should be designated by the fumigation company, government agency or appropriate authority. He should be able to provide documentation to the master proving his competence and authorization. The master should be provided with written instructions by the fumigator-in-charge on the type of fumigant used, the hazards to human health involved and the precautions to be taken, and in view of the highly toxic nature of all commonly used fumigants these should be followed carefully. Such instructions should be written in a language readily understood by the master or his representative.

3.2 Disinfestation of empty cargo holds

3.2.1 An empty cargo hold may be fumigated. Examples of some commonly used pesticides are listed in appendix 1. (For precautions before, during and after fumigation of cargo holds see 3.3 below.)

3.3 Disinfestation of cargoes and surrounds

3.3.1 *Fumigation with aeration (ventilation) in port*

3.3.1.1 Fumigation and aeration (ventilation) of empty cargo holds should always be carried out in port (alongside or at anchorage). Ships should not be permitted to leave port until gas-free certification has been received from the fumigator-in-charge.

3.3.1.2 Prior to the application of fumigants to cargo holds, the crew should be landed and remain ashore until the ship is certified “gas-free”, in writing, by the fumigator-in-charge or other authorized person. During this period a watchman should be posted to prevent unauthorized boarding or entry, and warning signs should be prominently displayed at gangways and at entrances to accommodation. A specimen of such a warning sign is given in appendix 2.

3.3.1.3 The fumigator-in-charge should be retained throughout the fumigation period and until such time as the ship is declared gas-free.

3.3.1.4 At the end of the fumigation period the fumigator will take the necessary action to ensure that the fumigant is dispersed. If crew members are required to assist in such actions, for example in opening hatches, they should be provided with adequate respiratory protection and adhere strictly to instructions given by the fumigator-in-charge.

3.3.1.5 The fumigator-in-charge should notify the master in writing of any spaces determined to be safe for re-occupancy by essential crew members prior to the aeration of the ship.

3.3.1.6 In such circumstances the fumigator-in-charge should monitor, throughout the fumigation and aeration periods, spaces to which personnel have been permitted to return. Should the concentration in any such area exceed the occupational exposure limit values set by the flag State regulations, crew members should be evacuated from the area until measurements show re-occupancy to be safe.

3.3.1.7 No unauthorized persons should be allowed on board until all parts of the ship have been determined gas-free, warning signs removed and clearance certificates issued by the fumigator-in-charge.

3.3.1.8 Clearance certificates should only be issued when tests show that all residual fumigant has been dispersed from empty cargo holds and adjacent working spaces and any residual fumigant material has been removed.

3.3.1.9 Entry into a space under fumigation should never take place except in the event of an extreme emergency. If entry is imperative the fumigator-in-charge and at least one other person should enter, each wearing adequate protective equipment appropriate for the fumigant used and a safety harness and lifeline. Each lifeline should be tended by a person outside the space, who should be similarly equipped.

3.3.1.10 If a clearance certificate cannot be issued after the fumigation of cargo in port, the provisions of 3.3.2 should apply.

3.3.2 *Fumigation continued in transit*

3.3.2.1 Fumigation in transit should only be carried out at the discretion of the master. This should be clearly understood by owners, charterers, and all other parties involved when considering the transport of cargoes that may be infested. Due consideration should be taken of this when assessing the options of fumigation. The master should be aware of the regulations of the flag State Administration with regard to in-transit fumigation. The application of the process should be with the agreement of the port State Administration. The process may be considered under two headings:

- .1 fumigation in which treatment is intentionally continued in a sealed space during a voyage and in which no aeration has taken place before sailing; and
- .2 in-port cargo fumigation where some aeration is carried out before sailing, but where a clearance certificate for the cargo hold(s) cannot be issued because of residual gas and the cargo hold(s) has been re-sealed before sailing.

3.3.2.2 Before a decision on sailing with a fumigated cargo hold(s) is made it should be taken into account that, due to operational conditions, the circumstances outlined in 3.3.2.1.2 may arise unintentionally, e.g. a ship may be required to sail at a time earlier than anticipated when the fumigation was started. In such circumstances the potential hazards may be as great as with a planned in-transit fumigation and all the precautions in the following paragraphs should be observed.

3.3.2.3 Before a decision is made as to whether a fumigation treatment planned to be commenced in port and continued at sea should be carried out, special precautions are necessary. These include the following:

- .1 at least two members of the crew (including one officer) who have received appropriate training (see 3.3.2.6) should be designated as the trained representatives of the master responsible for ensuring that safe conditions in accommodation, engine-room and other working spaces are maintained after the fumigator-in-charge has handed over that responsibility to the master (see 3.3.2.12); and
- .2 the trained representatives of the master should brief the crew before a fumigation takes place and satisfy the fumigator-in-charge that this has been done.

3.3.2.4 Empty cargo holds, are to be inspected and/or tested for leakage with instruments so that proper sealing can be done before or after loading. The fumigator-in-charge, accompanied by a trained representative of the master or a competent person, should determine whether the cargo holds to be treated are or can be made sufficiently gastight to prevent leakage of the fumigant to the accommodation, engine-rooms and other working spaces in the ship. Special attention should be paid to potential problem areas such as bilge and cargo line systems. On completion of such inspection and/or test, the fumigator-in-charge should supply to the master for his retention a signed statement that the inspection and/or test has been performed, what provisions have been made and that the cargo holds are or can be made satisfactory for fumigation. Whenever a cargo

hold is found not to be sufficiently gastight, the fumigator-in-charge should issue a signed statement to the master and the other parties involved.

3.3.2.5 Accommodation, engine-rooms, areas designated for use in navigation of the ship, frequently visited working areas and stores, such as the forecastle head spaces, adjacent to cargo holds being subject to fumigation in transit should be treated in accordance with the provisions of 3.3.2.13. Special attention should be paid to gas concentration safety checks in problem areas referred to in 3.3.2.4.

3.3.2.6 The trained representatives of the master designated in 3.3.2.3 should be provided and be familiar with:

- .1 the information in the relevant Safety Data Sheet; and
- .2 the instructions for use, e.g. on the fumigant label or package itself, such as the recommendations of the fumigant manufacturer concerning methods of detection of the fumigant in air, its behaviour and hazardous properties, symptoms of poisoning, relevant first aid and special medical treatment and emergency procedures.

3.3.2.7 The ship should carry:

- .1 gas-detection equipment and adequate fresh supplies of service items for the fumigant(s) concerned as required by 3.3.2.12, together with instructions for its use and the occupational exposure limit values set by the flag State regulations for safe working conditions;
- .2 instructions on disposal of residual fumigant material;
- .3 at least four sets of adequate respiratory protective equipment; and
- .4 a copy of the latest version of the Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG), including appropriate medicines and medical equipment.

3.3.2.8 The fumigator-in-charge should notify the master in writing of the spaces containing the cargo to be fumigated and also of any other spaces that are considered unsafe to enter during the fumigation. During the application of the fumigant the fumigator-in-charge should ensure that the surrounding areas are checked for safety.

3.3.2.9 If cargo holds are to be fumigated in transit:

- .1 After application of the fumigant, an initial check should be made by the fumigator-in-charge together with trained representatives of the master for any leak which, if detected, should be effectively sealed. When the master is satisfied that all precautions detailed in 3.3.2.1 to 3.3.2.12 have been fulfilled (refer to model checklist in appendix 3) then the vessel may sail. Otherwise, provisions outlined in 3.3.2.9.2 or 3.3.2.9.3 are to be followed.

If the provisions of 3.3.2.9.1 are not satisfied,

either:

- .2 After application of fumigants, the ship should be delayed in port alongside at a suitable berth or at anchorage for such a period as to allow the gas in the fumigated cargo holds to reach sufficiently high concentrations to detect any possible leakage. Special attention should be paid to those cases where fumigants in a solid or liquid form have been applied which may require a long period (normally from 4 to 7 days unless a recirculation or similar distribution system is used) to reach such a high concentration that leakages can be detected. If leakages are detected, the ship should not sail until the source(s) of such leakages are determined and eliminated. After ascertaining that the ship is in a safe condition to sail, i.e. no gas leakages are present, the fumigator-in-charge should furnish the master with a written statement that:
 - .2.1 the gas in the cargo hold(s) has reached sufficiently high concentrations to detect any possible leakages;
 - .2.2 spaces adjacent to the treated cargo hold(s) have been checked and found gas-free; and
 - .2.3 the ship's representative is fully conversant with the use of the gas-detection equipment provided.

or:

- .3 After application of the fumigants and immediately after the sailing of the ship, the fumigator-in-charge should remain on board for such a period as to allow the gas in the fumigated cargo hold or spaces to reach sufficiently high concentrations to detect any possible leakage, or until the fumigated cargo is discharged (see 3.3.2.20), whichever is the shorter, to check and rectify any gas leakages. Prior to his leaving the ship, he should ascertain that the ship is in a safe condition, i.e. no gas leakages are present, and he should furnish the master with a written statement to the effect that the provisions of 3.3.2.9.2.1, 3.3.2.9.2.2 and 3.3.2.9.2.3 have been carried out.

3.3.2.10 On application of the fumigant, the fumigator-in-charge should post warning signs at all entrances to places notified to the master as in 3.3.2.8. These warning signs should indicate the identity of the fumigant and the date and time of fumigation. A specimen of such a warning sign is given in appendix 2.

3.3.2.11 At an appropriate time after application of the fumigant, the fumigator-in-charge, accompanied by a representative of the master, should check that accommodation, engine-rooms and other working spaces remain free of harmful concentrations of gas.

3.3.2.12 Upon discharging his agreed responsibilities, the fumigator-in-charge should formally hand over to the master in writing responsibility for maintaining safe conditions in all occupied spaces. The fumigator-in-charge should ensure that gas-detection and respiratory protection equipment carried on the ship is in good order, and that adequate fresh supplies of consumable items are available to allow sampling as required in 3.3.2.13.

3.3.2.13 Gas concentration safety checks at all appropriate locations, which should at least include the spaces indicated in 3.3.2.5, should be continued throughout the voyage at least at eight-hour intervals or more frequently if so advised by the fumigator-in-charge. These readings should be recorded in the ship's log-book.

3.3.2.14 Except in extreme emergency, cargo holds sealed for fumigation in transit should never be opened at sea or entered. If entry is imperative, at least two persons should enter, wearing adequate protection equipment and a safety harness and lifeline tended by a person outside the space, similarly equipped with protective, self-contained breathing apparatus.

3.3.2.15 If it is essential to ventilate a cargo hold or holds, every effort should be made to prevent a fumigant from accumulating in accommodation or working areas. Those spaces should be carefully checked to that effect. If the gas concentration in those areas at any time exceeds the occupational exposure limit values set by the flag State regulations, they should be evacuated and the cargo hold or cargo holds should be re-sealed. If a cargo hold is re-sealed after ventilation it should not be assumed that it is completely clear of gas and tests should be made and appropriate precautions taken before entering.

3.3.2.16 Prior to the arrival of the ship, generally not less than 24 hours in advance, the master should inform the appropriate authorities of the country of destination and ports of call that fumigation in transit is being carried out. The information should include the type of fumigant used, the date of fumigation, the cargo holds which have been fumigated, and whether ventilation has commenced. Upon arrival at the port of discharge, the master should also provide information as required in 3.3.2.6.2 and 3.3.2.7.2.

3.3.2.17 On arrival at the port of discharge the requirements of receiving countries regarding handling of fumigated cargoes should be established. Before entry of fumigated cargo holds, trained personnel from a fumigation company or other authorized persons, wearing respiratory protection, should carry out careful monitoring of the spaces to ensure the safety of personnel. The monitored values should be recorded in the ship's log-book. In case of need or emergency the master may commence ventilation of the fumigated cargo holds under the conditions of 3.3.2.15, having due regard for the safety of personnel on board. If this operation is to be done at sea, the master should evaluate weather and sea conditions before proceeding.

3.3.2.18 Only mechanical unloading that does not necessitate entry of personnel into the cargo holds of such fumigated cargoes should be undertaken. However, when the presence of personnel in cargo holds is necessary for the handling and operation of unloading equipment, continuous monitoring of the fumigated spaces should be carried out to ensure the safety of the personnel involved. When necessary, these personnel should be equipped with adequate respiratory protection.

3.3.2.19 During the final stages of discharge, when it becomes necessary for personnel to enter the cargo holds, such entry should only be permitted subsequent to verification that such cargo holds are gas-free.

3.3.2.20 Upon completion of discharge and when the ship is found free of fumigants and certified as such, all warning signs should be removed. Any action in this respect should be recorded in the ship's log-book.

4 REGULATIONS FOR THE USE OF PESTICIDES

4.1 National and international controls on pesticide usage

4.1.1 In many countries the sale and use of pesticides are regulated by governments to ensure safety in application and prevention of contamination of foodstuffs. Among the factors taken into account in such regulations are the recommendations made by international organizations such as FAO and WHO, especially in regard to maximum limits of pesticide residues in food and foodstuffs.

4.1.2 Examples of some commonly used pesticides are listed in appendix 1. Pesticides should be used strictly in accordance with the manufacturer's instructions as given on the label or package itself. National regulations and requirements vary from one country to another; therefore particular pesticides which may be used for treatment of cargo holds and accommodation in ships may be limited by the regulations and requirements of:

- .1 the country where the cargo is loaded or treated;
- .2 the country of destination of the cargo, especially in regard to pesticide residues in foodstuffs; and
- .3 flag State of the ship.

4.1.3 Ships' masters should ensure that they have the necessary knowledge of the above regulations and requirements.

5 SAFETY PRECAUTIONS – GENERAL

5.1 Fumigation

5.1.1 Ship's personnel should not handle fumigants and such operations should be carried out only by qualified operators. Personnel allowed to remain in the vicinity of a fumigation operation for a particular purpose should follow the instructions of the fumigator-in-charge implicitly.

5.1.2 Aeration of treated cargo holds should be completed and a clearance certificate issued as in 3.3.1.8 or 3.3.1.10 before personnel are permitted to enter.

5.2 Exposure to pesticides resulting in illness

5.2.1 In the case of exposure to pesticides and subsequent illness, medical advice should be sought immediately. Information on poisoning may be found in the Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG) or on the package (manufacturer's instructions and safety precautions on the label or the package itself).

APPENDIX 1

FUMIGANTS SUITABLE FOR SHIPBOARD USE

The materials listed should be used strictly in accordance with the manufacturer's instructions and safety precautions given on the label or package itself, especially in respect of flammability, and with regard to any further limitations applied by the law of the country of loading, destination or flag of the ship, contracts relating to the cargo, or the shipowner's instructions.

1 Fumigants against insects in empty cargo holds

TO BE APPLIED ONLY BY QUALIFIED OPERATORS

- Carbon dioxide
- Nitrogen
- Methyl Bromide and carbon dioxide mixture
- Methyl Bromide
- Hydrogen cyanide
- Phosphine

2 Fumigants against insects in loaded or partially loaded cargo holds

CARE IS NEEDED IN SELECTING TYPES AND AMOUNTS OF FUMIGANTS FOR TREATMENT OF PARTICULAR COMMODITIES

- Carbon dioxide
- Nitrogen
- Methyl Bromide and carbon dioxide mixture
- Methyl Bromide
- Phosphine

3 Fumigant information

3.1 *Methyl Bromide*

Methyl Bromide is used in situations where a rapid treatment of commodities or space is required. It should not be used in spaces where ventilation systems are not adequate for the removal of all gases from the free space. In-ship in-transit fumigations with Methyl Bromide should not be carried out. Fumigation with Methyl Bromide should be permitted only when the ship is in the confines of a port (either at anchor or alongside) and to disinfest before discharge, once crew members have disembarked (see 3.1.2.3). Prior to discharge, ventilation must be done, forced if necessary, to reduce the gaseous residues below the occupational exposure limit values set by the flag State regulations in the free spaces. (See procedures for ventilation in 3.3.2.17 to 3.3.2.19).

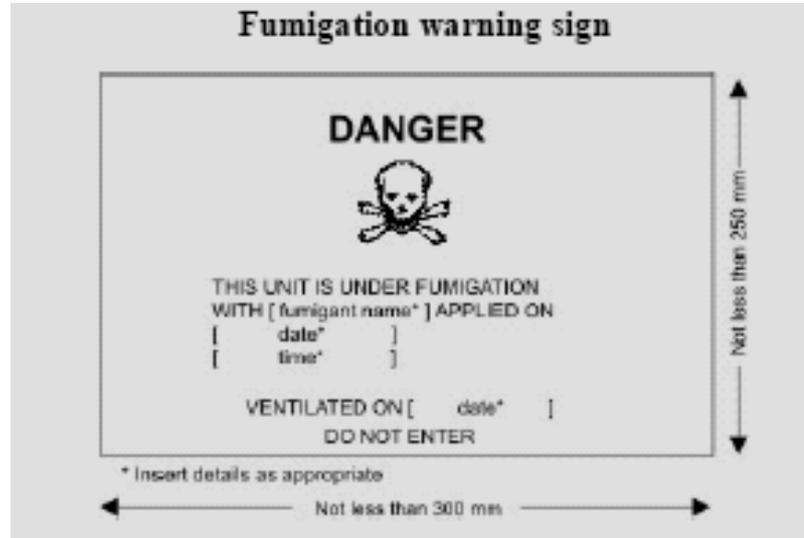
3.2 *Phosphine*

3.2.1 A variety of Phosphine-generating formulations are used for in-ship in-transit or at-berth fumigations. Application methods vary widely and include surface-only treatment, probing, perforated tubing laid at the bottom of spaces, recirculation systems and gas-injection systems or their combinations. Treatment times will vary considerably depending on the temperature, depth of cargo and on the application method used.

3.2.2 Any discharge of active packages producing Phosphine gas represent a significant risk to the public who may encounter them at sea. It should therefore be ensured that all waste and residues are disposed of in an appropriate manner, either by incineration or by disposal on shore, as recommended by the manufacturer. **Clear written instructions must be given to the master of the ship, to the receiver of the cargo and to the authorities at the discharging port as to how any powdery residues are to be disposed of.**

3.2.3 These will vary with each formulation and the method of application. Prior to discharge, ventilation must be done, forced if necessary, to reduce the gaseous residues below the occupational exposure limit values set by the flag State regulations in the free spaces (see procedures for ventilation in 3.3.2.17 to 3.3.2.19). For safety aspects during the voyage see 3.3.2.3.

APPENDIX 2



APPENDIX 3
MODEL CHECKLIST FOR IN-TRANSIT FUMIGATION

Date:
 Port: Terminal/Quay:
 Ship's name:
 Type of fumigant: Method of application:
 Date & time fumigation commenced:
 Name of fumigator/company:

The master and fumigator-in-charge, or their representatives, should complete the checklist jointly. The purpose of this checklist is to ensure that the responsibilities and requirements of 3.3.2.11, and 3.3.2.12 are carried out fully for in-transit fumigation under section 3.3.2.9.

Safety of operations requires that all questions should be answered affirmatively by ticking the appropriate boxes. If this is not possible, the reason should be given and agreement reached upon precautions to be taken between ship and fumigator-in-charge. If a question is considered to be not applicable write "n/a", explaining why, if appropriate.

PART A: BEFORE FUMIGATION

	SHIP	FUMIGATOR- IN-CHARGE
1 The inspection required before loading has been performed (3.3.2.4)	[]	[]
2 All the cargo holds to be fumigated are satisfactory for fumigation	[]	[]
3 Spaces, where found not to be satisfactory, have been sealed	[]	[]
4 The master or his trained representatives have been made aware of the specific areas to be checked for gas concentrations throughout the fumigation period	[]	[]
5 The master or his trained representatives have been made familiar with the fumigant label, detection methods, safety procedures and emergency procedures (refer to 3.3.2.6)	[]	[]
6 The fumigator-in-charge has ensured that gas-detection and respiratory protection equipment carried on the ship is in good order, and that adequate fresh supplies of consumable items for this equipment are available to allow sampling as required by 3.3.2.13.	[]	[]
7 The master has been notified in writing of:		
(a) the spaces containing cargo to be fumigated	[]	[]
(b) any other spaces that are considered unsafe to enter during the fumigation	[]	[]

PART B: AFTER FUMIGATION

The following procedure should be carried out after application of fumigant and closing and sealing of cargo holds.

	SHIP	FUMIGATOR- IN-CHARGE
8 Presence of gas has been confirmed inside each hold under fumigation	[]	[]
9 Each hold has been checked for leakage and sealed properly	[]	[]
10 Spaces adjacent to the treated cargo holds have been checked and found gas-free	[]	[]
11 The responsible crew members have been shown how to take gas readings properly when gas is present and they are fully conversant with the use of gas-detection equipment provided	[]	[]
12 Methods of application:		
(a) Surface application method	[]	[]
Initial rapid build-up of the gas in the upper regions of hold airspace with subsequent penetration downward of the gas over a longer period		
or		
(b) Deep probing	[]	[]
More rapid dispersion of gas than in (a) with lower concentrations in upper regions of airspace in the hold		
or		
(c) Recirculation	[]	[]
Rapid dispersion of gas throughout hold but at lower initial gas levels with subsequent build-up of gas levels which, however, may be lower due to even distribution		
or		
(d) Other	[]	[]
13 The master or trained representatives have been briefed fully on the method of application and the spread of the gas throughout the hold	[]	[]
14 The master or trained representatives have been made:		
(a) aware that even though the initial check may not indicate any leaks, it is essential that monitoring is to be continued in the accommodation, engine-room, etc. because gas concentrations may reach their highest levels after several days	[]	[]
(b) aware of the possibility of the spreading of gas throughout the duct keel and/or ballast tanks	[]	[]
15 The fumigator-in-charge has supplied a signed statement to the master conforming to the requirements of 3.3.2.12 for his retention	[]	[]
The above has been agreed:		
Time:		Date:
For Ship:		Fumigator-in-charge:
Rank:		

ANNEX 10**DRAFT MSC CIRCULAR****RECOMMENDATIONS ON THE SAFE USE OF PESTICIDES IN SHIPS
APPLICABLE TO THE FUMIGATION OF CARGO TRANSPORT UNITS**

- 1 The Maritime Safety Committee, at its sixty-second session (24 to 28 May 1993), approved the Recommendations on the safe use of pesticides in ships (MSC/Circ.612), proposed by the Sub-Committee on Containers and Cargoes at its thirty-second session.
- 2 The Maritime Safety Committee, at its [eighty-fourth] session (... 2008), approved the Recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo transport units, which apply to carriage of packaged dangerous goods in pursuance of the requirements of SOLAS regulation VI/4 and the relevant parts of the IMDG Code, proposed by the Sub-Committee on Dangerous Goods, Solid Cargoes and Containers at its twelfth session, as set out in the annex to the present circular.
- 3 The Committee agreed that the Recommendations should not apply to the carriage of fresh food produce under controlled atmosphere.
- 4 Member Governments are invited to bring the Recommendations to the attention of competent authorities, mariners, fumigators, fumigant and pesticide manufacturers and others concerned.
- 5 The present circular supersedes MSC/Circ.612, as amended by MSC/Circ.689 and MSC/Circ.746 with regard to the fumigation of cargo transport units.

ANNEX

RECOMMENDATIONS ON THE SAFE USE OF PESTICIDES IN SHIPS APPLICABLE TO THE FUMIGATION OF CARGO TRANSPORT UNITS

1 Introduction

1.1 These recommendations address the hazards to personnel arising from the operations involved in the carriage of fumigated containers. This guidance is aimed at everyone involved in the supply chain. Although the contents of the container may not be subject to the provisions of the International Maritime Dangerous Goods (IMDG) code, the process of fumigating such a container may bring it into the scope of the code. If the container comes within the scope of the code hazard communication provisions are mandatory. Hazard communication measures required by the IMDG Code include:

- .1 warning signs on containers;
- .2 transport documents describing the fumigation method and, if appropriate, ventilation date; and
- .3 requirements to declare fumigated containers on ships' manifests.

1.2 It is generally acknowledged, however, that there is widespread non-compliance with these requirements. Before entering the container all personnel should assess the risk as to whether it is safe to enter and, if appropriate, determine the level of fumigant present. The use of gas detection equipment may be required.

2 Reasons for fumigation

2.1 The presence of insects and rodents on ships is clearly undesirable for various reasons, and in addition to aesthetic and nuisance aspects, they may damage equipment and spread disease and infection, contaminate food in galleys and food stores, and cause damage to cargoes that will result in commercial or other losses.

2.2 The same highly toxic chemicals are used in containers as on board bulk ships. However, when a container that contains fumigant chemicals leaves the place at which it was fumigated, no-one can practically supervise the hazard unless they are aware of the presence of the fumigant. Any person who later enters the container can therefore be unknowingly exposed to dangerous levels of highly toxic chemicals.

2.3 Insects in containers

2.3.1 Grubs and larvae of insects and other species can infest cargo, as well as packaging, dunnage, etc., associated with the cargo, at any stage during harvesting, manufacture, processing, storage, packing or transport. These can spoil foodstuffs, textiles, leather goods, furniture, art and antiques, affect electronic equipment, contaminate sterile goods or deface consumer packaging or labelling, making the goods unfit for sale and therefore valueless.

2.3.2 Insect and mite pests of plant and animal products may be carried into the containers with goods (introduced infestation); they may move from one kind of product to another

(cross-infestation) and may remain to attack subsequent cargoes (residual infestation). Their control may be required to comply with phyto-sanitary requirements to prevent spread of pests and for commercial reasons to prevent infestation and contamination of, or damage to, cargoes of human and animal food.

2.4 Rodents

2.4.1 Rodents should be controlled not only because of the damage they may do to cargo or the ship's equipment, but also, as required by the International Health Regulations, to prevent the spread of disease. Importers, particularly those that operate food processing plants, make great efforts to eliminate infestation in order to prevent the invasion of the importer's local storage or processing plant from infestation carried in incoming cargo. Consequently, they regularly fumigate their premises and may insist that goods delivered to their premises are certified free of infestation by means of fumigation.

3 Shore-side fumigation operations – fumigated containers

3.1 Fumigated containers which have been ventilated

3.1.1 It is important to ensure that freight containers are properly ventilated by opening the doors and allowing the gas to escape. This can be a natural process, or can be accelerated by mechanical means such as blowers or extractors. The ventilation process can take many hours.

3.1.2 Freight containers or cargo transport units that have been completely ventilated after fumigation to ensure that no harmful concentration of gas remains should have the warning signs marked to show that it has been ventilated and the date of ventilation (in accordance with Special Provision 902 and Column 17 of the Dangerous Goods list for UN3359 Fumigated Unit) is not subject to the other requirements of the IMDG Code.

3.1.3 Care should be taken even after a container has been declared as ventilated. Gas can be held in packages of cargo, then desorbed over a long period of time, even over many days, raising the level of gas inside the container to above the safe exposure level. Bagged cereals and cartons with large air spaces are likely to produce this effect. Alternatively, gas and the fumigant sachets or tablets can become 'trapped' at the far end of a container by tightly packed cargo.

3.2 Containers loaded without ventilation after fumigation (fumigation in transit)

3.2.1 A freight container or cargo transport unit containing cargo under fumigation should not be allowed on board until sufficient time has elapsed to allow the attainment of a reasonably uniform gas concentration throughout the cargo. Because of variations due to types and amounts of fumigants and commodities and temperature levels, it is recommended that the period to elapse between fumigant application and loading should be determined locally for each country. Twenty-four hours is normally adequate for this purpose.

3.2.2 Carriage of fumigated containers which have not been ventilated before loading must be carried in accordance with the IMDG Code; the text below is reproduced from the 33rd amendment to the IMDG Code. A container which is carried under fumigation is classified as Class 9, assigned a UN Number (UN 3359) and a Proper Shipping Name (Fumigated Unit). The Dangerous Goods List of the IMDG Code also specifies the following for fumigated units. It assigns two Special Provisions:

Special Provision SP302

In the Proper Shipping Name, the word “UNIT” means a cargo transport unit.

Special Provision SP910

A FUMIGATED UNIT is a closed cargo transport unit containing goods or materials that either are or have been fumigated within the unit. The fumigant gases used are either poisonous or asphyxiant. The gases are usually evolved from solid or liquid preparations distributed within the unit. Fumigated units are subject to the following provisions:

- 1 Cargo transport units shall be fumigated and handled taking into account the provisions of the IMO publication Recommendations on the Safe Use of Pesticides in Ships, as amended.
- 2 Only cargo transport units that can be closed in such a way that the escape of gas is reduced to a minimum shall be used for the transport of fumigated cargo.
- 3 Class 9 placards shall not be affixed to a fumigated unit, except as required for other class 9 substances or articles packed therein (see 5.3.1.3).
- 4 Fumigated units shall be marked with a warning sign affixed to the access door(s) identifying the type and amount of fumigant used and the date and time of fumigation (see 5.3.2.5).
- 5 The transport document for a fumigated unit shall show the type and amount of fumigant used and the date and time of fumigation (see 5.4.4.2). In addition, instructions for disposal for any residual fumigant, including fumigation devices if used, shall be provided.
- 6 A closed cargo transport unit that has been fumigated is not subject to the provisions of this Code if it has been completely ventilated either by opening the doors of the unit or by mechanical ventilation after fumigation and if the date of ventilation is marked on the fumigation warning sign. When the fumigated goods or materials have been unloaded, the fumigation warning sign(s) shall be removed (see also 7.4.3).
- 7 When fumigated units are stowed under deck, equipment for detecting fumigant gas(es) shall be carried on the ship with instructions for their use.
- 8 Fumigants shall not be applied to the contents of a cargo transport unit once it has been loaded aboard the ship.

3.2.3 In column 17 (Properties and Observations) of the Dangerous Goods list for UN 3359, the following information is given:

A ‘FUMIGATED UNIT’ is a closed cargo transport unit containing goods or materials that either are or have been fumigated within the unit. The fumigant gases used are either poisonous or asphyxiant. The gases are usually evolved from solid or liquid preparations distributed within the unit. Fumigants shall not be applied to the contents of a cargo

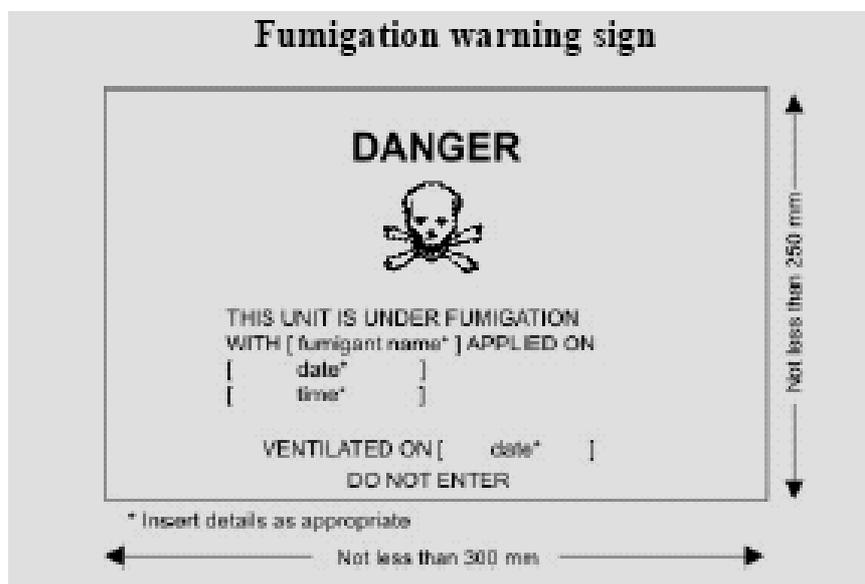
transport unit once it has been loaded aboard the ship. A closed cargo transport unit that has been fumigated is not subject to the provisions of this Code if it has been completely ventilated either by opening the doors of the unit or by mechanical ventilation after fumigation and the date of ventilation is marked on the fumigation warning sign (see also Special Provision 910).

3.2.4 Marking of the Cargo Transport Unit

3.2.4.1 To meet the requirements of the IMDG Code the container has to be marked in accordance with chapter 5.3 of the IMDG Code, the relevant text is reproduced below:

Paragraph 5.3.2.5 Fumigated units

- .1 The marking of the proper shipping name (FUMIGATED UNIT) and the UN number (UN 3359) is not required on fumigated units. However, if a fumigated unit is loaded with dangerous goods, any mark required by the provisions in 5.3.2.0 to 5.3.2.4 shall be marked on the fumigated unit.
- .2 A fumigated unit shall be marked with the warning sign, as specified in .3, affixed in a location where it will be easily seen by persons attempting to enter the interior of the unit. The marking, as required by this paragraph, shall remain on the unit until the following provisions are met:
 - .1 the fumigated unit has been ventilated to remove harmful concentrations of fumigant gas; and
 - .2 the fumigated goods or materials have been unloaded.
- .3 The fumigation warning sign shall be rectangular and shall be not less than 300 mm wide and 250 mm high. The markings shall be in black print on a white background with lettering not less than 25 mm high. An illustration of this sign is given below:



Transport documentation for the fumigated cargo transport unit

3.2.5 To meet the requirements of the IMDG Code the container must be documented in accordance with chapter 5.4 of the Code the relevant text is reproduced below:

Paragraph 5.4.4.2 Fumigated unit

The transport document for a fumigated unit shall show the type and amount of fumigant used and the date and time of fumigation. In addition, instructions for disposal of any residual fumigant, including fumigation devices, if used, shall be provided.

4 Fumigants used

There are a number of chemicals that are used as fumigants such as Phosphine and Methyl Bromide.

4.1 Phosphine UN 2199

4.1.1 This process requires a long period of time to work completely. This can be applied with little technical training as it is supplied in sachets, tablets or pressed plates containing Magnesium Phosphide or Aluminium Phosphide. These generate Phosphine gas when exposed to the moisture in the air. The gas has a slight “fishy garlic” smell and breaks down into a powdery grey residue.

4.1.2 The rate of generation of Phosphine depends on the temperature, the airborne moisture and the degree the generating material is exposed to the air.

4.1.3 Symptoms of poisoning by inhalation of Phosphine include nausea, vomiting, headache, feeling weak, fainting, pain in chest, cough, chest tightness and difficulty breathing. Pulmonary oedema (the presence of excess fluid in the lungs usually due to heart failure) can follow, usually within 24 hours, but sometimes this is delayed for some days.

4.2 Methyl bromide UN 1062

4.2.1 Fumigation with Methyl bromide is a relatively rapid process that can normally be completed in less than 48 hours. So these containers are not usually presented for shipment with gas above the toxicity levels (threshold limits) set by national agencies.

4.2.2 Symptoms of poisoning by inhalation of Methyl Bromide include headaches, dizziness, and eye irritation; coughing, nausea, abdominal discomfort, and numbness of feet. Higher exposure will bring about unconsciousness to central nervous system, convulsions, and loss of vision, balance and hearing.

4.2.3 Methyl Bromide is supplied as a gas. So during application, expertise is required to carry out the operation.

5 Ship-side operations

5.1 Fumigation after loading on board a ship

5.1.1 No person should be allowed by the master to fumigate the contents of a freight container, or cargo transport unit once it has been loaded on board a ship.

5.2 Containers loaded without ventilation after fumigation (fumigation in transit)

5.2.1 If it is intended that freight containers or cargo transport units containing cargo under fumigation should be taken on board ship without preliminary ventilation, their shipment must be considered as a Class 9 Hazard under the IMDG Code and as such the procedures should conform to the provisions as specified in the entries for FUMIGATED UNIT (UN 3359) of the Code. The following special precautions, incorporating the IMDG provisions, are necessary:

- .1 A freight container or cargo transport unit containing cargo under fumigation should not be allowed on board until sufficient time has elapsed to allow the attainment of a reasonably uniform gas concentration throughout the cargo. Because of variations due to types and amounts of fumigants and commodities and temperature levels, it is recommended that the period to elapse between fumigant application and loading should be determined locally for each country. Twenty-four hours is normally adequate for this purpose. Before loading the container should be checked for leaks and any leakage sealed.
- .2 The master should be informed prior to loading of freight containers and cargo transport units under fumigation. These should be identified with suitable warning signs, incorporating the identity of the fumigant and the date and time of fumigation. Any freight container under fumigation must have the doors substantially secured before loading onto a ship. Plastic or lightweight metal seals are not sufficient for this purpose. The securing arrangement must be such as to allow only authorized entry to the freight container. If container doors are to be locked, the means of locking should be of such a construction that, in case of emergency, the doors could be opened without delay. Adequate instructions for disposal of any residual fumigant material should be provided.
- .3 Shipping documents for freight containers or cargo transport units concerned should show the date of fumigation and the type and amount of fumigant used.
- .4 Stowage on deck should be at least 6 m away from vent intakes, crew quarters and regularly occupied spaces.
- .5 Stowage under deck should only be undertaken when unavoidable and then only in a cargo space equipped with mechanical ventilation sufficient to prevent the build-up of fumigant concentrations above the toxicity levels (threshold limits) set by national agencies. The threshold limit for occupational exposure to the fumigant can be found on the Safety Data Sheet. The ventilation rate of the mechanical ventilation system should be at least two air changes per hour, based on the empty cargo space.
- .6 Equipment suitable for detecting the fumigant gas or gases used should be carried on the ship, with instructions for its use.
- .7 Where the stowage requirements above cannot be met, cargo spaces carrying fumigated freight containers or cargo transport units should be treated as if under fumigation and the provisions below should apply.

5.2.2 Before a fumigated container is loaded to a vessel below deck special precautions are necessary. This includes the following:

- .1 At least an officer and one other are to receive appropriate training and will be designated as the trained representatives of the master. The master, through his representative, is responsible for ensuring safe conditions in the occupied spaces of the vessel.
- .2 The trained representatives should brief the crew before the container is loaded.

5.2.3 The fumigant gas is heavier than air so care should be taken in the holds particularly when working on the tank tops.

5.2.4 The trained representatives of the master should be provided and be familiar with:

- .1 The information in the relevant Safety Data Sheet (SDS), if available.
- .2 The instructions on the packaging itself, such as the recommendations of the fumigant manufacturer concerning methods of detection of the fumigant in air, its behaviour and hazards properties, symptoms of poisoning, relevant first aid and special medical treatment and emergency procedures.

5.2.5 The ship should carry:

- .1 adequate gas-detection equipment for the fumigant concerned, together with instructions for its use;
- .2 instructions on disposal of residual fumigant material;
- .3 at least four sets of adequate respiratory protective equipment; and
- .4 a copy of the latest version of the Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG), including appropriate medicines and medical equipment.

5.2.6 Prior to the arrival of the ship, generally not less than 24 hours in advance, the master should inform the appropriate authorities of the country of destination and ports of call that fumigation in transit is being carried out. The information should include the type of fumigant used; the date of fumigation and cargo spaces carrying fumigated freight containers or cargo transport units.

5.2.7 The instructions on the fumigant label or package itself, such as the recommendations of the fumigant manufacturer concerning methods of detection of the fumigant in air, its behaviour and hazardous properties, symptoms of poisoning, relevant first aid and special medical treatment.

5.2.8 Disposal of any residual fumigant material should be in accordance with suppliers instructions.

6 Hazards to personnel

6.1 If for any reason, the ship's crew or other personnel have to open a container declared as being under fumigation they must be very careful.

6.2 There are no obvious signs when Methyl bromide has been used as a fumigant (e.g., by sight or smell). The container should be left open as long as possible and then checked with the equipment available and should be declared gas free before entry is allowed. In the case of an emergency, entry may be allowed, with full confined space precautions, if there is any gas found to be present.

6.3 If the container is fumigated with Phosphine there are normally visual signs inside the container of the fumigant in the form of sachets, tablets, pressed plates or powder. The state of the packaging depends on the time these have been exposed and the atmosphere that they have been exposed in. It is also possible that the fumigants have moved between cargo items and may not be immediately visible.

6.4 As moisture is required for the reaction to take place, when a container is opened at sea the level of moisture in the air may restart the reaction.

6.5 After the Magnesium or Aluminium Phosphide reacts with moisture to generate Phosphine, a residue of magnesium or aluminium hydroxide remains. This is a light powdery grey substance like ash. Hopefully this has been retained in some kind of packaging so that it can be removed safely. If, however, there is a residue over the cargo, the crew must avoid breathing in this residue or getting it into their eyes or mouth. If not they are still at risk of being poisoned by the residue, which may still be able to generate some Phosphine.

6.6 It should be noted that there are certain commodities (e.g., edible nuts) where a small amount of fumigant is put in cotton wool and placed inside each bag. These items are then dangerous because their handling brings the fumigant close to the face.

6.7 Personnel should be made aware that not every fumigated container is declared and, hence, not marked as such. There are indicators for fumigated containers like tapes on vents or the door joints, a possible "fishy garlic" smell of Phosphine and packets or piles of powdery residue inside the container.

7 Fumigation detection

7.1 The most effective method of protection is to carry out gas tests when the container doors are opened. As a minimum, it is recommended to test for Phosphine and Methyl bromide as the two most common fumigants used. If gas is found the container should be put aside for ventilation.

7.1.1 Stain tube gas test equipment

7.1.1.1 Glass stain tube equipment is simple in design and use, robust and reliable. A test for Phosphine and Methyl bromide can be carried out by a person standing outside the container using a lance inserted into the container doorway. In practice air is drawn by small hand-held bellows through a glass tube containing impregnated crystals which react with the gas for which the test is being done. If the air is contaminated by the gas in question, the crystals change colour.

The function is not affected by moisture, but care has to be taken to warm the tubes to above 0°C in sub zero temperatures. Also a reasonable degree of light is required to detect the colour change of the crystals. The tubes should be used in accordance with the manufacturer's instructions. In particular, they must not be used after their expiry date.

7.1.2 Electronic (photo-ionisation gas testing equipment)

7.1.2.1 Gas tests can be carried out that detect the presence of gases and their concentration levels. Similarly, equipment can confirm that there is a safe level of oxygen within the container. At the present time the technology is such that both the quantification and discrimination are poor. There are frequent false positives due to cross sensitivities and readings are not accurate enough for determining safe exposure levels. Therefore the use of these instruments at the present time is not recommended.

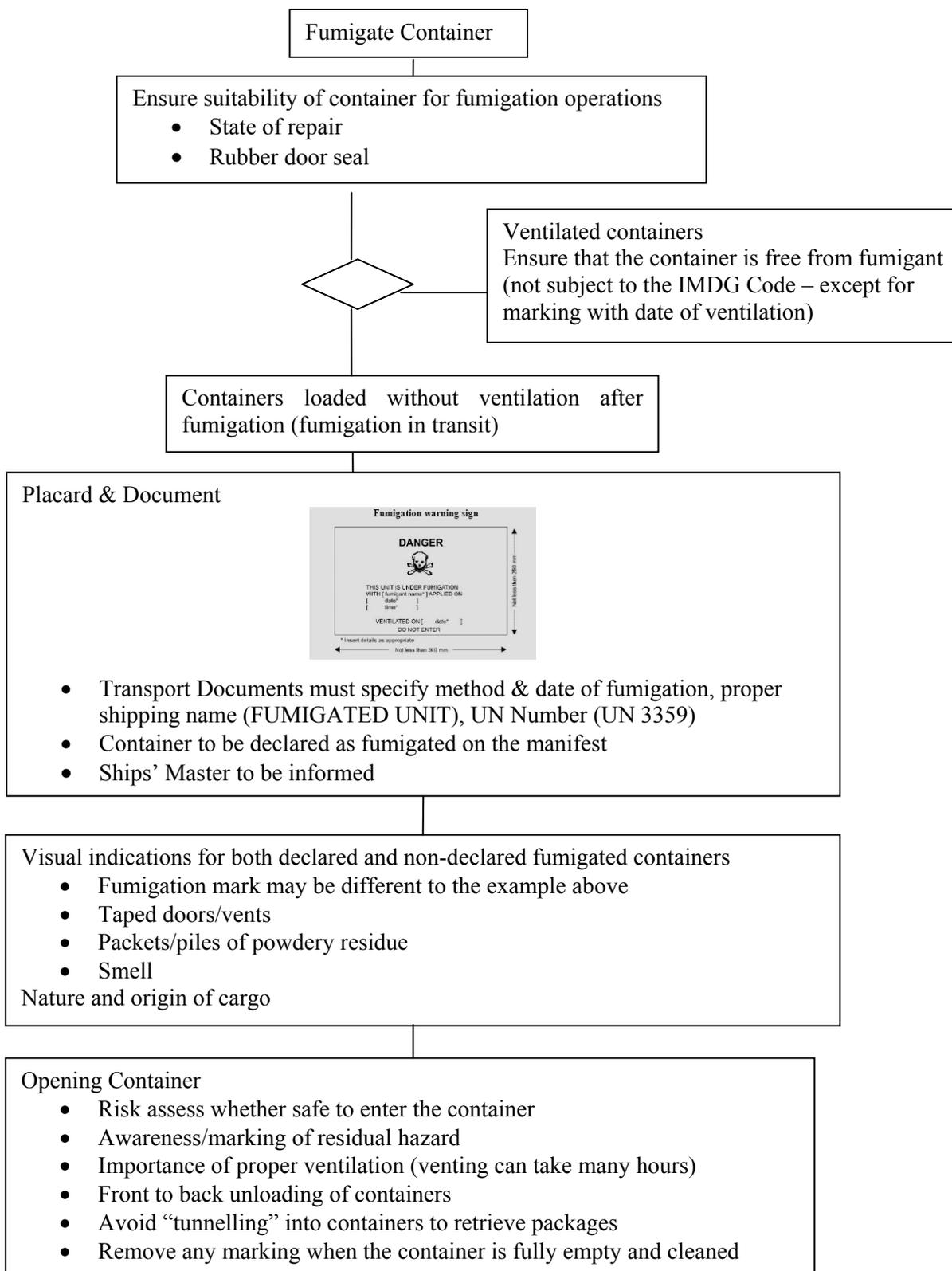
7.2 Personal monitors

7.2.1 Small electronic personal monitors are available for Phosphine, but not for Methyl Bromide. Phosphine monitors can be placed inside the container while unloaders are working, or worn by individuals on outer garments. The location of an independent monitor is important both to ensure that any fumigant is detected and ensure that the reading is not compromised by ventilation at the door or external contaminants. Monitors issue an audible signal if Phosphine levels reach the pre-set level and are useful as warning devices. However, they should not be used for the initial fumigation detection and measurement process. Also, electronic monitors have the disadvantage that they can respond to a range of harmless substances giving misleading alarm signals.

7.2.2 Personal monitors are also available to show the level of oxygen within the container. This would indicate a deoxygenated atmosphere but would not necessarily indicate that the atmosphere is free from fumigant.

APPENDIX

AIDE MEMOIRE FOR FUMIGATION OF CONTAINERS



ANNEX 11**DRAFT RESOLUTION MSC...(84)
(adopted on [... May 2008])****ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CONVENTION
FOR THE SAFETY OF LIFE AT SEA, 1974, AS AMENDED**

THE MARITIME SAFETY COMMITTEE,

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

RECALLING FURTHER article VIII(b) of the International Convention for the Safety of Life at Sea (SOLAS), 1974 (hereinafter referred to as "the Convention"), concerning the amendment procedure applicable to the Annex to the Convention, other than to the provisions of chapter I thereof,

HAVING CONSIDERED, at its [eighty-fourth] session, amendments to the Convention, proposed and circulated in accordance with article VIII(b)(i) thereof,

1. ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the Convention, the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the said amendments shall be deemed to have been accepted on [1 July 2009], unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have notified their objections to the amendments;
3. INVITES SOLAS Contracting Governments to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on [1 January 2010] upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;
5. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its Annex to Members of the Organization, which are not Contracting Governments to the Convention.

ANNEX

**AMENDMENTS TO THE INTERNATIONAL CONVENTION
FOR THE SAFETY OF LIFE AT SEA, 1974, AS AMENDED**

CHAPTER II-2

CONSTRUCTION-FIRE PROTECTION, FIRE DETECTION AND FIRE EXTINCTION

1 In regulation 1 the following new paragraph 2.3 is added:

“2.3 The following ships, with cargo spaces intended for the carriage of packaged dangerous goods, shall comply with regulation 19.3, except when carrying dangerous goods specified as class 6.2 and 7 and dangerous goods in limited quantities* and excepted quantities** in accordance with tables 19.1 and 19.3 not later than the date of the first renewal survey on or after the [date of entry into force of the amendments]:

- .1 passenger ships and cargo ships of 500 gross tonnage and upwards constructed on or after 1 September 1984 but before [date of entry into force of the amendments]; and
- .2 cargo ships of less than 500 gross tonnage constructed on or after 1 February 1992 but before [date of entry into force of the amendments].

Notwithstanding these provisions:

- .1 passenger ships and cargo ships of 500 gross tonnage and upwards constructed on or after 1 September 1984 but before 1 July 1986 need not comply with regulation 19.3.3 provided that they comply with regulation 54.2.3 as adopted by the resolution MSC.1(XLV);
- .2 passenger ships and cargo ships of 500 gross tonnage and upwards constructed on or after 1 July 1986 but before 1 February 1992 need not comply with regulation 19.3.3 provided that they comply with regulation 54.2.3 as adopted by the resolution MSC.6(48);
- .3 passenger ships and cargo ships of 500 gross tonnage and upwards constructed on or after 1 September 1984 but before 1 July 1998 need not comply with regulations 19.3.10.1 and 19.3.10.2; and
- .4 cargo ships of less than 500 gross tonnage constructed on or after 1 February 1992 but before 1 July 1998 need not comply with regulations 19.3.10.1 and 19.3.10.2.”

Footnote *: Refer to chapter 3.4 of the International Maritime Dangerous Goods Code.

Footnote **: Refer to chapter 3.5 of the International Maritime Dangerous Goods Code.

2 Replace note 1 to table 19.1 by the following text:

“¹ For classes 4 and 5.1 solids not applicable to closed freight containers. For classes 2, 3, 6.1 and 8 when carried in closed freight containers the ventilation rate may

be reduced to not less than two air changes per hour. For classes 4 and 5.1 liquids when carried in closed freight containers, the ventilation rate may be reduced to not less than two air changes per hour. For the purpose of this requirement a portable tank is a closed freight container”.

3 Replace the table 19.3 by the following table:

“Table 19.3 - Application of the requirements to different classes of dangerous goods except solid dangerous goods in bulk

Class	Regulation 19																							
	1.1 to 1.6	1.4S	2.1	2.2	2.3 flammable ²⁰	2.3 non-flammable	3 FP ¹⁵ < 23°C	3 FP ¹⁵ ≥ 23°C to ≤ 60°C	4.1	4.2	4.3 liquids ²¹	4.3 solids	5.1	5.2 ¹⁶	6.1 liquids FP ¹⁵ < 23°C	6.1 liquids FP ¹⁵ ≥ 23°C to ≤ 60°C	6.1 liquids	6.1 solids	8 liquids FP ¹⁵ < 23°C	8 liquids FP ¹⁵ ≥ 23°C to ≤ 60°C	8 liquids	8 solids	9	
3.1.1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3.1.2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
3.1.3	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3.1.4	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3.2	X	-	X	-	X	-	X	-	-	-	X ¹⁸	-	-	-	X	-	-	-	X	-	-	-	X ¹⁷	
3.3	X	X	X	X	-	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X	X	-	
3.4.1	-	-	X	-	-	X	X	-	X ¹¹	X ¹¹	X	X	X ¹¹	-	X	X	-	X ¹¹	X	X	-	-	X ¹¹	
3.4.2	-	-	X	-	-	-	X	-	-	-	-	-	-	-	X	-	-	-	X	-	-	-	X ¹⁷	
3.5	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X	-	X	X ¹⁹	X ¹⁹	-	-	
3.6	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X ¹⁴	
3.7	-	-	-	-	-	-	X	X	X	X	X	X	X	-	X	X	-	-	X	X	-	-	-	
3.8	X ¹²	-	X	X	X	X	X	X	X	X	X	X	X ¹³	-	X	X	-	-	X	X	-	-	-	
3.9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3.10.1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3.10.2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

¹¹ When “mechanically-ventilated spaces” are required by the International Maritime Dangerous Goods Code, as amended.

¹² Stow 3 m horizontally away from the machinery space boundaries in all cases.

¹³ Refer to the International Maritime Dangerous Goods Code, as amended.

¹⁴ As appropriate to the goods to be carried.

¹⁵ FP means flashpoint.

- ¹⁶ Under the provisions of the IMDG Code, as amended, stowage of class 5.2 dangerous goods under deck or in enclosed ro-ro spaces is prohibited.
- ¹⁷ Only applicable to dangerous goods evolving flammable vapour listed in the IMDG Code.
- ¹⁸ Only applicable to dangerous goods having a flashpoint less than 23°C listed in the IMDG Code.
- ¹⁹ Only applicable to dangerous goods having a subsidiary risk class 6.1.
- ²⁰ Under the provisions of the IMDG Code, as amended, stowage of class 2.3 having subsidiary risk class 2.1 under deck or in enclosed ro-ro spaces is prohibited.
- ²¹ Under the provisions of the IMDG Code, as amended, stowage of class 4.3 liquids having a flashpoint less than 23°C under deck or in enclosed ro-ro spaces is prohibited.”
- 4 Add the words “and excepted quantities” with the following footnote after the text “except when carrying dangerous goods in limited quantities” in regulation II-2/19.2.1:

“Refer to chapter 3.5 of the International Maritime Dangerous Goods Code.”
- 5 Add the words “and excepted quantities” at the end of regulation II-2/19.4.

ANNEX 12**DRAFT RESOLUTION MSC...(84)
(adopted on [... May 2008])****ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY
FOR HIGH-SPEED CRAFT, 2000 (2000 HSC CODE)**

THE MARITIME SAFETY COMMITTEE,

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

NOTING resolution MSC.97(73), by which it adopted the International Code of Safety for High-Speed Craft, 2000 (hereinafter referred to as “the 2000 HSC Code”), which has become mandatory under chapter X of the International Convention for the Safety of Life at Sea (SOLAS), 1974, (hereinafter referred to as “the Convention”),

NOTING ALSO article VIII(b) and regulation X/1.2 of the Convention concerning the procedure for amending the 2000 HSC Code,

HAVING CONSIDERED, at its [eighty-fourth] session, amendments to the 2000 HSC Code proposed and circulated in accordance with article VIII(b)(i) of the Convention,

1. ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the 2000 HSC Code, the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments shall be deemed to have been accepted on [1 July 2009] unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world’s merchant fleet, have notified their objections to the amendments;
3. INVITES Contracting Governments to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on [1 January 2010] upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;
5. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its Annex to Members of the Organization, which are not Contracting Governments to the Convention.

ANNEX*

**AMENDMENTS TO THE INTERNATIONAL CODE OF SAFETY
FOR HIGH-SPEED CRAFT, 2000 (2000 HSC CODE)**

**CHAPTER 7
FIRE SAFETY**

- 1 Replace note 1 to table 7.17-1 by the following text:

“¹ For classes 4 and 5.1 solids not applicable to closed freight containers. For classes 2, 3, 6.1 and 8 when carried in closed freight containers the ventilation rate may be reduced to not less than two air changes per hour. For classes 4 and 5.1 liquids when carried in closed freight containers, the ventilation rate may be reduced to not less than two air changes per hour. For the purpose of this requirement a portable tank is a closed freight container.”

- 2 Replace the table 7.17-3 by the following table:

“TABLE 7.17-3

Application of the requirements of section 7.17.3 to different classes of dangerous goods except solid dangerous goods in bulk

* The annex also contains at the end a list of footnotes to be added or to be amended in the 2000 HSC Code.

Section	Class																							
	1.1 to 1.6	1.4S	2.1	2.2	2.3 flammable ¹⁷	2.3 non-flammable	3 FP ¹² < 23°C	3 FP ¹² ≥ 23°C to ≤ 60°C	4.1	4.2	4.3 liquids ¹⁸	4.3 solids	5.1	5.2 ¹³	6.1 liquids FP ¹² < 23°C	6.1 liquids FP ¹² ≥ 23°C to ≤ 60°C	6.1 liquids	6.1 solids	8 liquids FP ¹² < 23°C	8 liquids FP ¹² ≥ 23°C to ≤ 60°C	8 liquids	8 solids	9	
7.17.3.1.1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
7.17.3.1.2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
7.17.3.1.3	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7.17.3.1.4	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7.17.3.2	X	-	X	-	X	-	X	-	-	-	X ¹⁵	-	-	-	X	-	-	-	X	-	-	-	X ¹⁴	
7.17.3.3	X	X	X	X	-	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X	X	-	
7.17.3.4.1	-	-	X	-	-	X	X	-	X ⁸	X ⁸	X	X	X ⁸	-	X	X	-	X ⁸	X	X	-	-	X ⁸	
7.17.3.4.2	-	-	X	-	-	-	X	-	-	-	-	-	-	-	X	-	-	-	X	-	-	-	X ¹⁴	
7.17.3.5	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X	-	X	X ¹⁶	X ¹⁶	-	-	
7.17.3.6	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X ¹¹	
7.17.3.7	-	-	-	-	-	-	X	X	X	X	X	X	X	-	X	X	-	-	X	X	-	-	-	
7.17.3.8	X ⁹	-	X	X	X	X	X	X	X	X	X	X	X ¹⁰	-	X	X	-	-	X	X	-	-	-	
7.17.3.9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
7.17.3.10.1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
7.17.3.10.2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

⁸ When “mechanically-ventilated spaces” are required by the International Maritime Dangerous Goods Code, as amended.

⁹ Stow 3 m horizontally away from the machinery space boundaries in all cases.

¹⁰ Refer to the International Maritime Dangerous Goods Code, as amended.

¹¹ As appropriate to the goods to be carried.

¹² FP means flashpoint.

¹³ Under the provisions of the IMDG Code, stowage of class 5.2 dangerous goods under deck or in enclosed ro-ro spaces is prohibited.

¹⁴ Only applicable to dangerous goods evolving flammable vapour listed in the IMDG Code.

¹⁵ Only applicable to dangerous goods having a flashpoint less than 23°C listed in the IMDG Code.

¹⁶ Only applicable to dangerous goods having a subsidiary risk class 6.1.

¹⁷ Under the provisions of the IMDG Code, as amended, stowage of class 2.3 having subsidiary risk class 2.1 under deck or in enclosed ro-ro spaces is prohibited.

¹⁸ Under the provisions of the IMDG Code, as amended, stowage of class 4.3 liquids having a flashpoint less than 23°C under deck or in enclosed ro-ro spaces is prohibited.”

- 3 Add the words “and excepted quantities” with the following footnote after the text “except when carrying dangerous goods in limited quantities” in regulation 7.17.1:

“Refer to chapter 3.5 of the International Maritime Dangerous Goods Code.”

ANNEX 13**DRAFT MSC CIRCULAR****CARRIAGE OF DANGEROUS GOODS****Document of compliance with the special requirements for ships carrying dangerous goods under the provisions of regulation II-2/19 of the 1974 SOLAS Convention, as amended and of regulation 7.17 of HSC Code 2000, as amended**

1 The Maritime Safety Committee, at its sixty-third session (16 to 25 May 1994), considered and approved a standard format for the document of compliance required by regulation II-2/54.3 of the SOLAS Convention, as amended. The Committee further agreed that the period of validity of the document of compliance should not exceed 5 years and should not be extended beyond the expiry date of the valid Cargo Ship Safety Construction Certificate issued to the ship concerned under the provisions of SOLAS regulation I/12.

2 The Maritime Safety Committee, at its seventy-fifth session (15 to 24 May 2002), in view of the amendments to SOLAS chapter II-2, adopted by resolution MSC.99(73), considered and approved a revised standard format for the document of compliance required by regulation II-2/19.4 of the SOLAS Convention, as amended, applicable as from 1 July 2002. This format is reproduced in MSC/Circ.1027.

3 The Maritime Safety Committee, at its seventy-ninth session (1 to 10 December 2004), recognizing the need to take into account the amendments to table 19.3 of SOLAS regulation II-2/19 which had been adopted by resolution MSC.134(76), decided that it was necessary to highlight the prohibition on stowage of class 5.2 dangerous goods under deck or in enclosed ro-ro spaces in documents of compliance required by regulation II-2/19 of the SOLAS Convention, as amended, for any ship built on or after 1 July 2004 when issuing or renewing the said documents.

4 The Committee, recognizing also that this prohibition on stowage under the IMDG Code also applies to all ships built before 1 July 2004 and subject to regulation II-2/19 (or II-2/54) of the SOLAS Convention, as amended, also decided that the prohibition on stowage should be taken into account when renewing documents of compliance for:

- any passenger ship built on or after 1 September 1984 and before 1 July 2004;
- any cargo ship of 500 gross tonnage or above built on or after 1 September 1984 and before 1 July 2004; and
- any cargo ship of less than 500 gross tonnage built on or after 1 February 1992 and before 1 July 2004.

5 Furthermore, the Committee, at the same session, agreed that the standard document of compliance format set out in MSC/Circ.1027 should be used when renewing documents of ships subject to SOLAS regulation II-2/54 applicable before 1 July 2002, and that in such cases the references to regulations II-2/19 and II-2/19.4 appearing in the standard format should be replaced by references to regulations II-2/54 and II-2/54.3 respectively.

6 The Committee, at its eighty-first session (10 to 19 May 2006), considered the report of the forty-ninth session of the DE Sub-Committee and agreed the inclusion of a standard format for a document of compliance with special requirements for high-speed craft carrying dangerous goods as required by regulation 7.17.4 of the 2000 HSC Code in the Code, although the draft amendments to the Code were not adopted.

7 The Committee, [at its eighty-... session (date)], in view of the amendments to table 19.3 in SOLAS chapter II-2 and table 7.17-3 in 2000 HSC Code, adopted by resolutions MSC.XX(XX) and MSC.YY(YY), respectively, considered and approved again revised standard formats for the document of compliance required by regulation II-2/19.4 of the SOLAS Convention, as amended and by regulation 7.17.4 of the 2000 HSC Code, as amended.

8 The Committee, at that session, confirmed that the period of validity of the document of compliance should not exceed:

- .1 five years for cargo ships and should not be extended beyond the expiry date of the valid cargo ship safety construction certificate issued to cargo ships concerned under the provisions of SOLAS regulation I/12; and
- .2 one year for passenger ships and should not be extended beyond the expiry date of the valid passenger ship safety certificate issued to passenger ships concerned under the provisions of SOLAS regulation I/12.

9 The Committee, at that session, further agreed that:

- .1 it is still necessary to highlight the prohibition on stowage of class 5.2 dangerous goods under deck or in closed ro-ro spaces when issuing or renewing documents of compliance according to the revised standard formats; and
- .2 the revised standard formats should be used when renewing documents of compliance for existing ships subject to SOLAS regulation II-2/1.2.3 and that in such cases the reference to regulation II-2/19 appearing in the revised standard format should be replaced by "II-2/19.3 as applicable according to II-2/1.2.3".

10 The revised standard formats of the document of compliance recommended for use and acceptance by Member Governments and Contracting Governments to the SOLAS Convention and 2000 HSC Code are set out in annex 1 and annex 2, respectively.

11 Member Governments are invited to draw this circular to the attention of authorities responsible for issuing and renewing documents of compliance, bodies acting on behalf of these governments, and shipowners, ship operators and masters, with a view to harmonizing the practices of the various Administrations.

12 Member Governments are also invited to draw this circular to the attention of authorities tasked by the port State with carrying out inspections of ships, and to recommend them to take the above into account when discharging their responsibilities.

13 This circular supersedes MSC/Circ.1027 and MSC/Circ.1148.

ANNEX 1

STANDARD FORMAT OF THE DOCUMENT OF COMPLIANCE

Special Requirements for Ships carrying Dangerous Goods

Issued in pursuance of the requirement of regulation II-2/19.4
of the International Convention for Safety of Life at Sea, 1974,
as amended, under the authority of

the Government of _____

Name of ship: _____

Distinctive number or letters: _____

Port of registry: _____

Ship type: _____

IMO Number (if applicable): _____

THIS IS TO CERTIFY:

.1 that the construction and equipment of the above-mentioned ship was found to comply with the provisions of regulation II-2/19 of the International Convention for the Safety of Life at Sea, 1974, as amended; and

.2 that the ship is suitable for the carriage of those classes of dangerous goods as specified in the appendix hereto, subject to any provisions in the International Maritime Dangerous Goods (IMDG) Code and the Code of Safe Practice for Solid Bulk Cargoes (BC) Code for individual substances, materials or articles also being complied with.

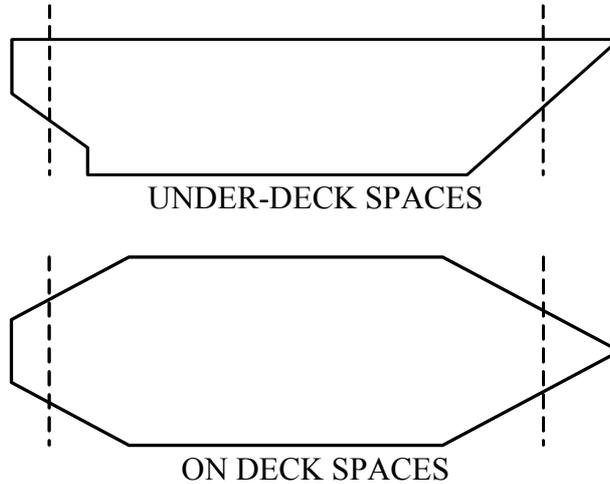
This document is valid until _____

Issued at _____
(Signature of authorized official issuing the certificate)

NOTE: There are no special requirements in the above-mentioned regulation II-2/19 for the carriage of dangerous goods of classes 6.2 and 7, and for the carriage of dangerous goods in limited quantities, as required in chapter 3.4 of the IMDG Code, and excepted quantities, as required in chapter 3.5 of the IMDG Code.

APPENDIX

Spaces to be indicated in the plans with numbers corresponding with the table below



Class	Hold							
		1	2	3
1.1 to 1.6								
1.4S								
2.1								
2.2								
2.3	flammable							
2.3	non-flammable							
3	FP < 23°C							
3	FP ≥ 23°C to ≤ 60°C							
4.1								
4.2								
4.3 liquids								
4.3 solid								
5.1								
5.2								
6.1 liquids	FP < 23°C							
6.1 liquids	FP ≥ 23°C to ≤ 60°C							
6.1 liquids								
6.1 solid								
8 liquids	FP < 23°C							
8 liquids	FP ≥ 23°C to ≤ 60°C							
8 liquids								
8 solid								
9								

“P” indicates
 PACKAGED GOODS
 PERMITTED.

“A” indicates
 PACKAGED AND
 BULK GOODS
 ALLOWED.

“X” indicates NOT
 ALLOWED.

Remarks related to the information in the table above as applicable:

NOTE: Cargoes in bulk may be listed individually by name and class

ANNEX 2

STANDARD FORMAT OF THE DOCUMENT OF COMPLIANCE

Special Requirements for Ships carrying Dangerous Goods

Issued in pursuance of the requirement of part D, chapter 7 of the International Code of Safety for High-Speed Craft, 2000 as amended, under the authority of

the Government of _____

Name of craft: _____

Design type and hull No.: _____

Distinctive number or letters: _____

IMO Number (if applicable):⁵ _____

Port of registry: _____

Category: Category A craft/Category B craft/cargo craft⁶

Type of craft: hovercraft, surface effect ship, hydrofoil, single-hull vessel, multi-hull vessel, other (please state.....)⁶

CERTIFICATE

1. The construction and equipment of the above-mentioned craft have been found to comply with the provisions of part D, chapter 7 of the International Code of Safety for High-Speed Craft, 2000, as amended;
2. The craft is suitable to carry the classes of dangerous goods indicated in the attached appendix, subject to concurrent application of the International Maritime Dangerous Goods Code (IMDG Code) and the Code of Safe Practice for Solid Bulk Cargoes (BC Code) in respect of the various materials or items.

This document is valid until _____

Issued at _____
(Signature of authorized official issuing the certificate)

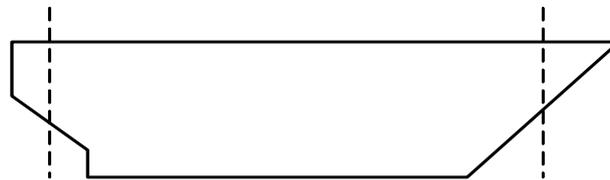
Note: Part D of chapter 7 stipulates no special provisions for the carriage of dangerous goods of classes 6.2 and 7, nor for the carriage of dangerous goods in limited quantities as defined in chapter 3.4 of the IMDG Code.

⁵ IMO Ship Identification Number Scheme, adopted by the Organization through resolution A.600(15).

⁶ Delete where applicable.

APPENDIX

Indicate spaces on plans using the corresponding numbers from the table below



UNDER-DECK SPACES



ON DECK SPACES

Class	Hold								
		1	2	3	
1.1 to 1.6									
1.4S									
2.1									
2.2									
2.3 flammable									
2.3 non-flammable									
3 FP < 23°C									
3 FP ≥ 23°C to ≤ 60°C									
4.1									
4.2									
4.3 liquids									
4.3 solid									
5.1									
5.2									
6.1 liquids FP < 23°C									
6.1 liquids FP ≥ 23°C to ≤ 60°C									
6.1 liquids									
6.1 solid									
8 liquids FP < 23°C									
8 liquids FP ≥ 23°C to ≤ 60°C									
8 liquids									
8 solid									
9									

“P” indicates
PACKAGED GOODS
PERMITTED.

“A” indicates
PACKAGED AND
BULK GOODS
ALLOWED.

“X” indicates NOT
ALLOWED.

Comments on the information contained in the table above as applicable:

NOTE: Bulk cargoes may be listed individually, by designation and class.

ANNEX 14**JUSTIFICATION FOR A PROPOSED NEW WORK PROGRAMME ITEM
(in accordance with MSC-MEPC.1/Circ.1)****AMENDMENTS TO THE INTERNATIONAL CONVENTION FOR SAFE CONTAINERS, 1972
RELATED TO THE CAPACITY TO EXAMINE CONTAINERS****1 Scope of the proposal**

To review and/or revise as necessary, specific provisions of the International Convention for Safe Containers, 1972 (CSC), concerning:

- .1 Periodic Examination Scheme (CSC, regulation 2);
- .2 Continuous Examination Programme (CSC, regulation 2.3);
- .3 Recommendation on harmonized interpretation and implementation of the International Convention for Safe Containers, 1972, as amended (CSC/Circ.100); and
- .4 any related IMO documents, i.e. circulars.

2 Compelling need

2.1 From a practical standpoint with the use of the existing requirements for the maintenance and examination of containers, contained within regulation 2 of the CSC, personnel involved in the handling of containers during loading and discharging of ships are being subjected to an increased risk of serious injury as a result of undetected damages.

2.2 Investigations to date suggest that problems may exist with inspection programmes outlined in the CSC.

2.3 Additionally, a number of delegations have proposed that it would be useful to standardize to some extent the scope and principles of examination programmes.

3 Analysis of the issues involved, having regard to the costs to the maritime industry and global legislative and administrative burdens

No costs to the maritime industry are anticipated. The administrative burdens to the Organization and to the Member States are anticipated to be minimal.

4 Benefits

The ambiguous nature of the existing recommendations has led to inadequate maintenance and examination requirements for some containers, and in a number of cases resulted in risks to the personnel involved with the handling of containers. Specific guidance needs to be developed to remove the ambiguities for the maintenance and examination requirements.

5 Priority and target completion date

This matter should have high priority since the issues are of ongoing concern. It is expected that two sessions will be needed to conclude this new item. The new item should be added to the work programme and agenda for DSC 13.

6 Specific indication of the action required

Revised requirements for maintenance and examination procedures will need to be prepared to update the existing annex 1, regulation 2 of the International Convention for Safe Containers, 1972, and/or associated IMO documents.

7 Remarks on the criteria for general acceptance

- .1 The subject of the proposal is within the scope of IMO objectives.
- .2 The item is within the relevant provisions of the Strategic plan for the Organization and the High-level action plan.
- .3 Adequate industry standards do exist, but they are incomplete and inconsistently applied.
- .4 It is believed that the benefits do justify the proposed action.

8 Identification of which subsidiary bodies are essential to complete the work

The work should be able to be accomplished by the Sub-Committee on Dangerous Goods, Solid Cargoes and Containers exclusively.
