1 GENERAL

Introduction

1.1 The Sub-Committee held its fifty-fourth session from 12 to 16 April 2010 under the chairmanship of Mr. J.C. Cubisino (Argentina). The Vice-Chairman, Mr. C. Abbate (Italy), was also present.

1.2 The session was attended by delegations from the following Member Governments:
and by the following Associate Members of IMO:

HONG KONG, CHINA
FAROE ISLANDS (DENMARK)

1.3 The session was also attended by observers from the following intergovernmental organizations:

EUROPEAN COMMISSION (EC)
MARITIME ORGANIZATION FOR WEST AND CENTRAL AFRICA (MOWCA)

1.4 The session was also attended 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)
COMITÉ INTERNATIONAL RADIO-MARITIME (CIRM)
INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS (IAPH)
INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES (IACS)
OIL COMPANIES INTERNATIONAL MARINE FORUM (OCIMF)
INTERNATIONAL FEDERATION OF SHIPMASTERS’ ASSOCIATIONS (IFSMA)
INTERNATIONAL ASSOCIATION OF INDEPENDENT TANKER OWNERS (INTERTANKO)
CRUISE LINES INTERNATIONAL ASSOCIATION (CLIA)
INSTITUTE OF MARINE ENGINEERING, SCIENCE AND TECHNOLOGY (IMarEST)
INTERNATIONAL PARCEL TANKERS ASSOCIATION (IPTA)
The INTERNATIONAL MARINE CONTRACTORS ASSOCIATION (IMCA)
The ROYAL INSTITUTION OF NAVAL ARCHITECTS (RINA)
INTERNATIONAL TRANSPORT WORKERS’ FEDERATION (ITF)
The NAUTICAL INSTITUTE (NI)]

Secretary-General's opening address

1.5 The Secretary-General welcomed participants and delivered his opening address, the full text of which is reproduced in document FP 54/INF.7.

Chairman's remarks

1.6 The Chairman, thanking the Secretary-General, stated that the Secretary-General's words of encouragement as well as his advice and requests would be given every consideration and taken into account under relevant agenda items, and that his helpful guidance on the subjects to be considered by the Sub-Committee was very much appreciated, in particular concerning the further work on the comprehensive review of the
Fire Test Procedures Code, the measures to prevent explosions on oil and chemical tankers transporting low-flashpoint cargoes, and also the ongoing work on performance testing and approval standards for fire safety systems.

**Tragic death of the President of Poland**

1.7 Before turning to matters related to the Sub-Committee's work, the Secretary-General drew the Sub-Committee's attention to the devastating news of the tragic death of the President of Poland, Mr. Lech Kaczynski, his wife and many dignitaries of the Polish political and military élite, which filled all with sadness, grief and a feeling of personal loss. It is most unfortunate that the proud Polish nation that has, in its long history over the centuries, suffered so much, had to endure another trauma of unimaginable dimensions. The Secretary-General, on behalf of the entire membership and staff, expressed deep condolences, sympathy and, above all, solidarity to the Polish people, the families and friends of the President and his entourage. He emphasized that thoughts and prayers should go out to those who perished in that tragic accident and requested the Polish delegation to convey sentiments of utter despair and dismay to their Government and countrymen.

1.8 The delegation of Poland informed the Sub-Committee that the Polish nation was plunged in deep grief and sorrow, after the tragic death of their President, his wife and all persons on board the plane, which crashed on Saturday, 10 April 2010, leaving no survivors. The Polish delegation said that the condolences and words of sympathy from those who shared their grief were of the greatest value and brought them support and consolation. The delegation pointed out that the spirit of solidarity with, and compassion for, those going through hard experiences has always been present in this Organization, and has yet another time demonstrated on this extremely sad occasion by the Secretary-General and the Chairman, as well as by many colleagues who approached the delegation with words of sympathy. The delegation of Poland took the opportunity to wholeheartedly thank all for the condolences and commiserations, which they wished would bring support to the families and friends of those who perished in that tragic accident, and to all people of Poland.

1.9 The delegation of the Russian Federation stated that the Russian people, like the Polish people, have been shocked by an appalling tragedy: the death of the President of the Polish Republic, Mr. Lech Kaczynski, his wife and all the other Polish citizens on board the flight that crashed near Smolensk on 10 April. They informed that President Kaczynski had flown to Russia to honour the memory of Polish officers who perished in totalitarian times. They emphasized that all Russians shared the grief and mourning of the Polish people in connection with this tragedy. The delegation informed the Sub-Committee that the Russian
and Polish authorities are working closely together to investigate the causes of the crash and all the circumstances of this tragedy. The delegation extended its deepest and most sincere condolences to the Polish people and expressed its sympathy and support for the relatives and friends of the deceased, pointing out that Monday, 12 April was declared a national day of mourning in the Russian Federation.

1.10 The Sub-Committee, following the request of the delegation of the Russian Federation, observed a minute’s silence in memory of those lost in the tragic accident.

**Earthquake in China**

1.11 At the opening of the meeting on Wednesday, 14 April 2010, the Chairman informed the Sub-Committee of an earthquake that hit the town of Yushu in Qinghai province of China, and expressed sympathy and compassion for the victims of the earthquake and requested the Chinese delegation to convey feelings of deep sorrow and anguish for the tragic event. The Sub-Committee joined the Chairman in the expression of the above sentiments.

**Adoption of the agenda and related matters**

1.12 The Sub-Committee adopted the agenda (FP 54/1) and agreed to be guided in its work, in general, by the annotations contained in documents FP 54/1/1. The agenda, as adopted, with the list of documents considered under each agenda item, is set out in document FP 54/INF….

**2 DECISIONS OF OTHER IMO BODIES**

**General**

2.1 The Sub-Committee noted the decisions and comments pertaining to its work made by BLG 13, DE 52, FSI 17, MSC 86, NAV 55, DSC 14, SLF 52, BLG 14 and DE 53, as reported in documents FP 54/2, FP 54/2/1 and FP 54/2/2, and took them into account in its deliberations when dealing with relevant agenda items.

**Outcome of the twenty-sixth session of the Assembly**

2.2 The Sub-Committee noted that the twenty-sixth session of the Assembly had adopted the Strategic Plan for the Organization (for the six-year period 2010 to 2015) (resolution A.1011(26)), the High-level Action Plan of the Organization and priorities for the 2010-2011 biennium (resolution A.1012(26)) and the Guidelines on the application of the Strategic Plan and the High-level Action Plan of the Organization (resolution A.1013(26)) and
that the effect this has on the agenda management procedure and the work programme of
the Sub-Committee would be further discussed under agenda item 22 (Work programme and
agenda for FP 55).

3 PERFORMANCE TESTING AND APPROVAL STANDARDS FOR FIRE SAFETY
SYSTEMS

General

3.1 The Sub-Committee recalled that, at FP 53, it had approved the revised action plan
identifying the priorities, time frames and objectives for each priority category prepared by
the working group established on the matter (FP 53/WP.1, annex 19).

3.2 The Sub-Committee also recalled that, at FP 53, it had re-established the
Correspondence Group on Performance Testing and Approval Standards for Fire Safety
Systems and approved terms of reference, as set out in paragraph 3.38 of
document FP 53/23, and had instructed the group to submit a report to FP 54.

3.3 The Sub-Committee had for its consideration under this agenda item documents
submitted by Japan (FP 54/3/3), the Republic of Korea (FP 54/3/4), Sweden (FP 54/3/2), the
United States (FP 54/3 and FP 54/3/1), and the Secretariat (FP 54/2/2 and FP 54/3/5). In the
context of this item, the Sub-Committee also considered documents FP 54/24/1 and
FP 54/INF.3 submitted by the Republic of Korea.

Report of the working group (part 2) established at FP 53

3.4 The Sub-Committee considered part 2 of the report of the Working Group on
Performance Testing and Approval Standards for Fire Safety Systems established at FP 53
(FP 54/3) and, having approved it in general, noted that the group's report had been
considered in detail by the correspondence group (FP 54/3/1) established at FP 53.

Report of the correspondence group

3.5 The Sub-Committee considered the report of the Correspondence Group on
Performance Testing and Approval Standards for Fire Safety Systems (FP 54/3/1) together
with the documents referred to in paragraph 3.3 and, having approved it in general:

.1 agreed to the draft amendments to chapter 5 of the FSS Code to delete
reference to gaseous products of fuel combustion as fixed gas
fire-extinguishing systems, set out in annex ..., for submission to MSC 88
for approval and subsequent adoption;
.2 decided to instruct the working group to consider if the foam system application rates for helidecks in SOLAS regulation II-2/18 should be harmonized with the foam system application rates for helidecks in the MODU Code;

.3 noted that the IACS interpretation UI SC 216 on water-based extinguishing systems applies to passengers and cargo ships, and agreed to instruct the working group to harmonize the outcome of the relevant correspondence groups on matters related to IACS UI SC 216;

.4 agreed that only amendments, which were considered strictly necessary, to the Guidelines for the maintenance and inspections of fixed carbon dioxide fire-extinguishing systems (MSC.1/Circ.1318) should be prepared. In light of the above, the Sub-Committee agreed that the words "national and international standards acceptable to the Administration" should be considered for inclusion in paragraph 6.1.2 of the Guidelines, as well as matters related to the inspection of pressure cylinders, if the Guidelines are amended; and

.5 agreed on the need to revise paragraph 3.2.6 of the draft Revised Guidelines for the approval of fixed water-based local application fire-fighting systems for use in category A machinery spaces (FP 54/3/1, annex 8), as the text in square brackets is a carriage requirement, and therefore, should not be contained in the Revised Guidelines.

3.6 In considering documents FP 54/24/1 and FP 54/INF.3 (Republic of Korea), providing information and results of tests to confirm the fire-fighting capability of water-based local application fire-fighting system in accordance with SOLAS regulation II-2/10.5.6, the Sub-Committee, bearing in mind that the documents refer to the unified interpretations of SOLAS chapter II-2 (MSC.1/Circ.1276), prepared by FP 52, based on IACS UI SC 217, noted that it was not the intention of the submitter to propose amendments to MSC.1/Circ.1276, but to provide information to shipowners and classification societies. The Sub-Committee also noted the opinion of the Republic of Korea that the Unified interpretation improves the fire-extinguishing capability of the single row system. However, this does not mean that the conventional single row system has a poor fire-extinguishing capability.
Information by the delegation of the Bahamas regarding "Oscar Wilde" casualty

3.7 In the context of the item, the Sub-Committee noted the information provided by the delegation of the Bahamas regarding a casualty on the Bahamas registered passenger ferry Oscar Wilde. On 2 February 2010, a fire broke out in the auxiliary machinery space on board the aforementioned ship, which was sailing from Falmouth (United Kingdom) after completing her annual docking. The seat of the fire was in way of a diesel alternator fuel supply module and quickly spread across the compartment. As part of the fire-fighting effort, the fixed total flooding system (high-expansion foam) was activated but did not extinguish the fire. Although all the foam solution in the system was deployed into the engine-room, no foam was produced. The fire burned fiercely for over 1 hour before it was extinguished by the ship's crew. The high-expansion foam system was type-approved and had been maintained and tested in accordance with the manufacturer's instructions and current IMO guidance. Technical investigation identified that:

.1 80% of the foam generator nozzles within the auxiliary engine-room were blocked by debris and about 50% of the nozzles in the other protected spaces on board were also clogged;

.2 the distribution pipework for the foam solution contained debris and was corroded; and

.3 there were several sections of the system's distribution pipes in which water or foam solution could have been trapped following the testing of the system.

3.8 In light of the above, the Sub-Committee agreed to instruct the working group to consider the information above and advise as appropriate.

Outcome of BLG 14

Use of alcohol resistant foams when carrying ethanol/gasoline blends

3.9 In considering document FP 54/2/2 (Secretariat), on the outcome of BLG 14, on matters related to the use of alcohol resistant foams when carrying ethanol/gasoline blends, related to fire protection requirements of SOLAS regulations II-2/1.6.1 and II-2/1.6.2, the Sub-Committee agreed to refer the document to the working group for further consideration of the matter.


Draft amendments to chapter 14 of the FSS Code regarding fixed deck foam systems

3.10 In the course of considering document FP 54/3/5 (Secretariat), on the outcome of BLG 14 on matters related to the draft amendments to chapter 14 of the FSS Code regarding fixed deck foam systems, the Sub-Committee noted that the BLG Sub-Committee had:

.1 considered that the proposed draft amendments to chapter 14 of the FSS Code regarding fixed deck foam systems could imply a new carriage requirement for such a system for those ships carrying substances listed in chapters 17 and 18 of the IBC Code, taking into account that chapter 18 lists substances to which the IBC Code does not apply and ships carrying such substances need not normally apply the provisions of the IBC Code;

.2 acknowledged that the aforementioned proposed amendments may give rise to confusion, on the grounds that the proposed text contains references to the IBC Code and raises potential contradictions with both SOLAS and the IBC Code;

.3 agreed that the FSS Code should not introduce any requirements concerning the carriage of chemicals covered by the IBC Code and, if there is a need to change the carriage requirements for chemicals covered by the IBC Code, this should only be done by amending respective requirements of the IBC Code;

.4 invited the Sub-Committee to hold the inclusion of amendments relating to the IBC Code in the proposed amendments to chapter 14 of the FSS Code until such time as the BLG Sub-Committee would have considered the matter in detail, and requested the Sub-Committee to supply relevant information regarding the testing of high flashpoint chemicals with regard to foam application rates; and

.5 noting that this work would be better done under a separate agenda item, invited MSC 87 to include an unplanned output in the biennial agenda of the BLG Sub-Committee and provisional agenda for BLG 15, taking into account the associated justification.
3.11 Consequently, the Sub-Committee decided, as requested by BLG 14, to hold the inclusion of amendments relating to the IBC Code in the proposed amendments to chapter 14 of the FSS Code, pending the advice of the BLG Sub-Committee and the relevant decision by MSC 87 on the matter. In the meantime, the Sub-Committee invited Member Governments and international organizations to supply relevant information regarding the testing of high flashpoint chemicals with regard to foam application rates.

Establishment of the working group

3.12 Recalling its relevant decision at FP 53 regarding a working group, the Sub-Committee established the Working Group on Performance Testing and Approval Standards and, taking into account the comments and decisions made in plenary, instructed it to:

.1 continue work on the medium-term priorities identified in annex 19 to document FP 53/WP.1, taking into account part 2 of the report of the working group established at FP 53 (FP 54/3), the report of the correspondence group (FP 54/3/1), and documents FP 54/3/2, FP 54/3/3 and FP 54/3/4 and, in particular, to:

.1.1 finalize the draft revised chapter 6 of the FSS Code (FP 54/3/1, annex 1);

.1.2 finalize the draft Guidelines for testing and approval of fixed high-expansion foam systems (FP 54/3/1, annex 2); and

.1.3 harmonize the outcome of the correspondence groups regarding IACS interpretation UI SC 216 on water-based extinguishing systems, taking into account paragraph 8 and annex 4 to document FP 54/3/1 and paragraphs 13 and 14 and annex 3 to document FP 54/8;

.2 continue work on the long-term priorities identified in annex 19 of document FP 53/WP.1, taking into account part 2 of the report of the working group established at FP 53 (FP 54/3) and the report of the correspondence group (FP 54/3/1);
consider the use of alcohol resistant foams when carrying ethanol/gasoline blends, related to fire protection requirements of SOLAS regulations II-2/1.6.1 and II-2/1.6.2, taking into account part of document FP 54/2/2 relevant to this item, and advise the Sub-Committee accordingly;

update the Revised plan for the harmonization, or new development, of performance testing and approval standards for fire safety systems contained in annex 19 to document FP 53/WP.1, taking into account the progress made to date, and prepare a revised plan identifying the priorities, timeframes and objectives for each category, with a view to finalization at FP 55; and

consider whether there is a need to re-establish the correspondence group and, if so, prepare the terms of reference for the group, for consideration by the Sub-Committee.

**Report of the working group**

3.13 Having received the report of the working group (FP 54/WP.1), the Sub-Committee approved it in general and took action as outlined hereunder.

**Maintenance and inspections of fixed carbon dioxide fire-extinguishing systems**

3.14 With regard to the proposed modifications to paragraph 6.1 of the Guidelines for the maintenance and inspections of fixed carbon dioxide fire-extinguishing systems (MSC.1/Circ.1318), concerning the periodical inspection intervals for the high-pressure cylinders, the Sub-Committee endorsed the group's view that there is no essential need to amend the Guidelines at this stage.

**Fixed gas and water-spraying fire-extinguishing systems for vehicle spaces, ro-ro spaces, container and general cargo spaces**

3.15 Regarding fixed gas and water-spraying fire-extinguishing systems for vehicle, ro-ro, container and general cargo spaces, the Sub-Committee agreed to the draft amendments to chapters 5 and 7 of the FSS Code, and the draft amendments to SOLAS regulation II-2/20, set out in annexes ... and ..., respectively, for submission to MSC 88 for approval and subsequent adoption.
Amendments to chapter 6 of the FSS Code and the draft Guidelines for testing and approval of fixed high-expansion foam systems

3.16 The Sub-Committee agreed to the draft amendments to chapter 6 of the FSS Code and the draft Guidelines for testing and approval of fixed high-expansion foam systems together with the associated draft MSC circular, set out in annexes ... and ..., respectively, for submission to MSC 88 for approval, and subsequent adoption as appropriate.

Scientific methods on scaling of test volume for fire test on water-mist fire-extinguishing systems

3.17 The Sub-Committee agreed to the Scientific methods on scaling of test volume for fire test on water-mist fire-extinguishing systems together with the associated draft MSC circular, set out in annex ..., for submission to MSC 88 for approval.

IACS Unified Interpretation UI SC 216 on water-based extinguishing systems

3.18 The Sub-Committee noted the group's consideration on IACS UI SC 216 (unified interpretation for SOLAS regulation II-2 on water-based fire extinguishing systems), and agreed not to develop interpretations on the subject.

3.19 In this regard, the Sub-Committee agreed to the draft amendments to the Revised Guidelines for the approval of equivalent water-based fire-extinguishing systems for machinery spaces and cargo pump-rooms (MSC/Circ.1165), concerning redundant means of pumping and ceiling and bilge nozzles (paragraph 17 of, and paragraph 1.3 of appendix B to, the annex to the Revised Guidelines), set out in annex ..., for submission to MSC 88 for approval.

Extinguishing systems for control stations

3.20 The Sub-Committee agreed to the draft amendments to chapter 8 of the FSS Code, concerning alternative extinguishing systems for control stations, set out in annex ..., for submission to MSC 88 for approval and subsequent adoption.

Fixed deck foam extinguishing systems

3.21 The Sub-Committee endorsed the group's view regarding fixed deck foam extinguishing systems (FP 54/WP.1, paragraph 18) and requested the Secretariat to forward the view to BLG 15 for consideration and comment.
Revised Guidelines for the approval of fixed water-based local application fire-fighting systems for use in category A machinery spaces (MSC/Circ.913)

3.22 The Sub-Committee agreed to the draft Revised Guidelines for the approval of fixed water-based local application fire-fighting systems for use in category A machinery spaces (MSC/Circ.913) and the associated draft MSC circular, set out in annex ..., for submission to MSC 88 for approval.

3.23 The Sub-Committee also agreed to the draft amendments to SOLAS regulation II-2/10.5.6.3.1, set out in annex..., for submission to MSC 88 for approval and subsequent adoption.

Revised Guidelines on maintenance and inspection of fire protection systems and appliances (MSC/Circ.850)

3.24 The Sub-Committee agreed that the Revised Guidelines on maintenance and inspection of fire protection systems and appliances (MSC/Circ.850) need to be further revised and updated as necessary to take account of the latest technologies, as one of the long-term priorities.

Revised plan of action

3.25 The Sub-Committee approved the revised plan of action, as set out in annex 10 to document FP 54/WP.1.

Re-establishment of the correspondence group

3.26 The Sub-Committee re-established the correspondence group, under the coordination of the United States*, and instructed the group, taking into account the relevant information contained in document FP 54/3/1 and the outcome of the working group outlined in part 1 (FP 54/WP.1) and part 2 of its reports, to:

1 further consider the draft Guidelines for the approval of helicopter facility fire-fighting appliances;

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further consider long-term priority systems listed in annex 10 to document FP 54/WP.1; and

.3 submit a report to FP 55.]

4  COMPREHENSIVE REVIEW OF THE FIRE TEST PROCEDURES CODE

General

4.1 The Sub-Committee recalled that, at FP 53, it had established the Working Group on Comprehensive Review of the Fire Test Procedures Code and, having approved the report in general, agreed, in principle, to the draft International Code for the Application of Fire Test Procedures, 2010 (2010 FTP Code) for submission to MSC 86 for approval, in principle, and subsequent adoption.

4.2 It was also recalled that, at FP 53, the Sub-Committee had agreed to the draft amendments to SOLAS chapter II-2, which would make the aforementioned 2010 FTP Code mandatory, for submission to MSC 86 for approval and subsequent adoption, in conjunction with the adoption of the 2010 FTP Code.

4.3 The Sub-Committee noted that MSC 86 had agreed to invite Member Governments and international organizations to submit comments on the draft 2010 FTP Code to FP 54, and that MSC 87 would consider the draft Code, as prepared by FP 53 (FP 53/23/Add.1, annex 14) together with any modifications to the draft Code prepared by FP 54, with a view to approval and subsequent adoption at MSC 88. In this context, MSC 86 approved the draft amendments to SOLAS chapter II-2, which would make the 2010 FTP Code mandatory, with a view to adoption, at MSC 88, in conjunction with the adoption of the draft Code.

Proposed modifications to the draft 2010 FTP Code

4.4 The Sub-Committee had for its consideration the following documents:

.1 FP 54/4 (Chairman of the working group at FP 53), providing a list of necessary corrections to the draft 2010 FTP Code, which were prepared by the Chairman of the working group established at FP 53, in consultation with some members of the group. The document also included an addition to part 5 of the draft Code regarding test of plastic pipes;
.2 FP 54/4/1 (Norway), containing proposed amendments to the Guidelines for the application of plastic pipes on ships (resolution A.753(18)), to provide for an extension of the application to synthetic rubber pipes. It recalls that FP 51 agreed that the Guidelines should be amended to accommodate fire safety requirements for synthetic rubber pipes; however, this matter was not yet finalized; and

.3 FP 54/4/2 (Finland), commenting on the draft 2010 FTP Code, which was considered acceptable, in general. The comments were made in order to improve the draft text and to harmonize the use of some test methods.

Establishment of the drafting group

4.5 Following consideration of the documents submitted, the Sub-Committee, recalling its relevant decision at FP 53, established the Drafting Group on Comprehensive Review on the Fire Test Procedures Code and instructed it, taking into account the comments and decisions made in plenary, to:

.1 finalize the editorial modifications to the draft 2010 FTP Code, based on the text prepared by the working group, established at FP 53 (FP 53/23/Add.1, annex 14), taking into account documents FP 54/4 and FP 54/4/2; and

.2 finalize the draft Guidelines for the design, construction and testing of fixed hydrocarbon gas detection systems on double-hull oil tankers, and the associated draft MSC circular, based on the report of the correspondence group (FP 54/11), taking into account document FP 54/11/1.

Amendments to the Guidelines for the application of plastic pipes on ships (resolution A.753(18))

4.6 In the context of this item, after a brief discussion of document FP 54/4/1 (Norway), the Sub-Committee, in recalling its decision that the test procedures contained in the Guidelines (resolution A.753(18)) should be amended to accommodate fire safety requirements for synthetic rubber pipes (FP 51/19, paragraph 4.8), and noting that the Guidelines are not contained in the FTP Code, agreed to request a group of experts to prepare a final text of the draft amendments to the Guidelines for the application of plastic pipes on ships, provided in document FP 54/4/1, for consideration by the Sub-Committee.
4.7 Having considered the outcome of the group of experts (FP 54/WP.6), the Sub-Committee:

.1 in considering draft amendments to the Guidelines (resolution A.753(18)), with regard to paragraph 1.2.3, agreed the following text of paragraph 1.2.3:

"1.2.3 These Guidelines are applicable to [plastic pipes] [non-metallic piping systems] piping systems made predominantly of other materials than metal, only. [Further, these Guidelines apply to flexible pipes and hoses and couplings which are accepted for use in metallic piping systems.] [The use of flexible pipes and hoses and mechanical and flexible couplings which are accepted for use in metallic piping systems is not addressed in these Guidelines.]; and

.2 subsequently agreed to the draft amendments to the Guidelines for the application of plastic pipes on ships (resolution A.753(18)), and the associated draft MSC resolution set out in annex ..., for submission to MSC 88 for adoption.


4.8 Having received the report of the drafting group (FP 54/WP.7), the Sub-Committee approved it in general and, in particular:

.1 agreed to the draft Guidelines for the design, construction and testing of fixed hydrocarbon gas detection systems on double-hull oil tankers incorporating modifications, and the associated draft MSC circular, set out in annex ..., for submission to MSC 87 for approval; and

.2 agreed to the modifications to the draft 2010 FTP Code, set out in annex ..., for submission to MSC 87 for consideration and action as appropriate.
5 FIRE RESISTANCE OF VENTILATION DUCTS

General

5.1 The Sub-Committee recalled that, at FP 52, it had agreed to the draft amendments to SOLAS regulation II-2/9.7 on matters related to fire resistance of ventilation ducts, which were approved by MSC 84 and subsequently adopted by resolution MSC.269(85). The amendments are due to enter into force on 1 July 2010 and shall be applied to new ships only.

5.2 It was also recalled that, at FP 53, the Sub-Committee, in considering document FP 53/6 (United States) containing proposed amendments to SOLAS regulation II-2/9.7, to clarify and harmonize the SOLAS ventilation system requirements, had noted the views of some delegations that more detailed consideration was necessary since the fitting of automatic fire dampers in all "A" class divisions would be very costly for passenger ships and was not technically proven to substantially improve safety.

5.3 The Sub-Committee noted that, at FP 53, it had agreed to invite the Committee to extend the target completion date of the item to 2010 and invited Member Governments and international organizations to submit relevant comments and proposals to FP 54.

5.4 Following consideration of document FP 54/5 (United States), containing further clarifications of the amendments to SOLAS regulation II-2/9.7, as contained in the annex to document FP 53/6, to improve and harmonize the SOLAS ventilation system requirements taking into consideration the safe return to port philosophy and the comments made at FP 53, the Sub-Committee agreed that further consideration was still necessary, in particular, to:

.1 clarify vague expressions, such as "remotely controlled from the onboard safety centre";

.2 determine the minimum cross-sectional area of ducts that would be required to fit automatic fire dampers;

.3 address concerns regarding steel penetrations, insulation and the existence of various unified interpretations on this matter; and

.4 improve the draft text set out in the annex to document FP 54/5.
Establishment of the correspondence group

5.5 Subsequently, the Sub-Committee established the Correspondence Group on Fire Resistance of Ventilation Ducts, under the coordination of the United States*, to progress the work on this issue and instructed the group, based on the annex to document FP 54/5, to:

.1 incorporate outstanding IMO unified interpretations related to the draft amendments to SOLAS regulation II-2/9.7 with a view towards harmonization;

.2 validate the need and proposed size cut-offs for automatic fire dampers to be installed for ducts passing through "A" class boundary penetrations;

.3 further consider the provisions for "B" class penetrations, closing appliances and galley ventilation ducts;

.4 clarify the draft provisions related to smoke control/management systems;

.5 prepare a comprehensive set of draft amendments to SOLAS regulation II-2/9 for consideration by the Sub-Committee; and

.6 submit a report to FP 55.

Extension of the target completion year

5.6 In view of the above developments, the Sub-Committee invited the Committee to extend the target completion year for the output to 2011.

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6 MEASURES TO PREVENT EXPLOSIONS ON OIL AND CHEMICAL TANKERS TRANSPORTING LOW-FLASH POINT CARGOES

General

6.1 The Sub-Committee recalled that, at FP 53, it had agreed that new oil tankers of below 20,000 tonnes deadweight should be fitted with inert gas systems (IGS), and that the need for application of a lower limit should be further considered based on the proposals of [4,000] [6,000] [8,000] tonnes deadweight, recognizing that such requirements could be introduced by suitably modifying the provisions of SOLAS regulation II-2/4.5.5.

6.2 It was also recalled that, at FP 53, the Sub-Committee had agreed that requirements should be developed for the installation of inert gas systems on new chemical tankers, and that, since chemical tankers presented much more complex problems than oil tankers, separate requirements may need to be developed to cover them, which would necessarily also include modifications to SOLAS regulation II-2/4.5.5.2.

6.3 The Sub-Committee noted that, at FP 53, it had decided to establish a working group at this session to progress the matter and urged Member Governments and international organizations to submit proposals for amendments to relevant IMO instruments and any other information regarding the matter to FP 54 for consideration and action, as appropriate.

6.4 The Sub-Committee had the following documents for consideration under this agenda item:

.1 FP 54/6 (ICS and IPTA), providing relevant information from their members, with the data being primarily on the operation of chemical tankers, in many different issues considered at FP 53, e.g., impact on turnaround time in ports and port congestion, increased fuel consumption and related environmental emissions/costs associated with running IG/N₂ plant, and increase in ship building costs;

.2 FP 54/6/1 (IPTA), seeking for clarification on the precise meaning of the expression "the property-based approach" in the context of the current discussions, referring to the definition of "property-based approach" presented by Norway (FP 52/20/2, paragraph 13);
.3 FP 54/6/2 (Norway and OCIMF), proposing amendments to SOLAS regulation II-2/4.5.5 to require the inerting tanks on new tankers carrying low-flash point cargoes, which would apply to all tankers of 500 gross tonnage and above, regardless of the age or size of the ship or the size of the tanks;

.4 FP 54/6/3 (China), providing comments and recommendations for the installation of IGSs on new oil and chemical tankers of less than 20,000 tonnes deadweight, in which the lower deadweight limit should be 8,000 tonnes, as both FSA studies from Japan (FP 51/10/1 and FP 52/INF.2) and Norway (FP 53/5/3) indicated that installation of IGSs on oil tankers of less than 8,000 tonnes deadweight would not be cost-effective, in addition to the feasibility of the design and installation on smaller tankers; and

.5 FP 54/INF.5 (Japan), presenting results of the follow-up study of the cost benefit assessment on application of requirement of IGSs to tankers, in particular, the results of the follow-up study indicating that the mandatory application of the requirement of IGS on oil tankers up to 8,000 tonnes deadweight and chemical tankers up to 20,000 tonnes deadweight chemical tankers cannot be justified from the Gross Costs of Averting a Fatality (GCAF) and the Net Costs of Averting a Fatality (NCAF) standpoints. In addition, the study showed that the mandatory application of the requirement of IGSs for oil tankers of 8,000 to 20,000 tonnes deadweight can be justified from the NCAF standpoint, but not from the GCAF standpoint.

6.5 Having considered the above documents and after an extensive discussion on the matter, the Sub-Committee noted the following views expressed during the debate:

.1 the term "property-based approach" needs to be clearly defined as it is vague with regard to the application of IGS to oil and chemical tankers;

.2 while some delegations felt the supply of inert gas from the shore is always available upon request, other delegations indicated that shore supply is not available in some ports;
in addition to the above views on shore supply, some delegations observed that the potential for over pressurization of cargo tanks is possible if shore-supplied inerting is made mandatory;

agenda item 17 (Revision of the Recommendations for entering enclosed spaces aboard ships) needs to also be considered within context of this item because the carriage of chemical cargoes entail a relatively high level of tank preparation (see also paragraph 17...);

taking into account the above view, some delegations pointed out the need for increased training and drills related to enclosed space entry procedures with a greater emphasis on developing a safety culture, in particular, awareness by seafarers that cargo tanks should always be treated as an unsafe area;

while delegations agreed that safety factors should be the basis of any recommendations agreed by the Sub-Committee, issues such as cost effectiveness, operational profile and environmental protection should also be considered as far as practicable, taking into account the FSA studies submitted on this issue as well as the merits and disadvantages associated with the application of IGS on board oil and chemical tankers; and

some delegations expressed the view that the fitting of IGS on small sized oil and chemical tankers would be difficult, while other delegations felt this issue was only relevant to the application of IGS for existing oil and chemical tankers, which the Sub-Committee has not been instructed by the Committee to consider at this stage.

In noting the length and extent of the debate and the divergent views on the issue, the Chairmen recalled the words of the Secretary-General that this would not be the easiest of tasks, given the complexity of the issue; however, by working together in the usual IMO spirit of cooperation, and in the knowledge that the work would ensure the best interests of both safety and environmental protection, the Sub-Committee would be able to successfully resolve any difficulties that it may encounter in the process.

In summarizing the debate, the Chairman, having emphasized that the Sub-Committee had only been tasked with preparing recommendations for new tankers and recalling the basic agreement reached at FP 53 (paragraphs 6.1 and 6.2), noted that many of
the above views could not be resolved quickly and that the working group would therefore need to further consider the above comments in detail and advise the Sub-Committee accordingly.

Establishment of the working group

6.8 Recalling its relevant decision at FP 53 regarding working groups, the Sub-Committee established the Working Group on Measures to Prevent Explosions on Oil and Chemical Tankers Transporting Low-Flashpoint Cargoes and instructed it, taking into account the comments and decisions made in plenary, to:

.1 define the lower size limit for new oil and chemical tankers, to which the requirement of inerting would apply, taking into account documents FP 54/6, FP 54/6/1, FP 54/6/2, FP 54/6/3, FP 54/INF.5, FP 53/5/3, FP 51/10/1 and FP 52/INF.2;

.2 prepare draft amendments to SOLAS regulation II-2/4.5.5 for the installation of inert gas systems and use of inert gas on new oil tankers of below 20,000 tonnes deadweight, taking into account documents FP 54/6, FP 54/6/1, FP 54/6/2, FP 54/6/3 and FP 54/INF.5; and

.3 prepare draft amendments to SOLAS regulation II-2/4.5.5.2 for the installation of inert gas systems and use of inert gas on new chemical tankers, taking into account documents FP 54/6, FP 54/6/1, FP 54/6/2, FP 54/6/3 and FP 54/INF.5.

Report of the working group

6.9 Having received the report of the working group (FP 54/WP.2), the Sub-Committee approved it in general and took action as outlined hereunder.

Lower size limit for new oil and new chemical tankers

6.10 The Sub-Committee agreed that the lower limit should be set only for the fitting of IGS and that, because the availability of shore supplied inert gas (IG) could not be guaranteed on all trades, the issue of separate requirements for the use of IG without requiring the fitting of IGS was not subject of the discussions and would therefore not be considered in the context of the draft amendments to SOLAS regulation II-2/4.5.5 under preparation.
6.11 The Sub-Committee noted that the FSA study submitted by Japan (FP 54/INF.5) did not support the fitting of IGS to new tankers of less than 8,000 dwt, whereas the FSA study submitted by Norway (FP 53/5/3) supported a figure of 4,000 dwt. However, several delegations stated that the purpose of FSA studies was to assist and guide decisions to be taken and that the results needed to be looked at holistically, which could result in decisions on size limits different from those recommended by such FSA studies.

6.12 The Sub-Committee noted that the group had initially been divided between setting the lower limit at the inherent limit applicable to SOLAS chapter II-2 of 500 GT and establishing a higher limit based on deadweight, with a focus on consideration of 5,000 and 8,000 dwt, noting in this connection document FP 54/6, which indicated that below 5,000 dwt the difficulties associated with fitting and operating of IGS on chemical tankers become acute; and further noted that it had been pointed out in the group that, where safe operating procedures are followed correctly, a non-inerted tank does not equate to an unsafe tank.

6.13 The Sub-Committee noted that the group had agreed to apply the requirement for IGS to ships intended for the carriage of liquid having a flashpoint not exceeding 60°C.

6.14 The Sub-Committee agreed that the requirement to fit IGS should only apply to new oil tankers and new chemical tankers of 5,000 dwt and above carrying low-flash point cargoes.

6.15 The delegations of Brazil, China, Panama and Turkey disagreed with the lower size limit of 5,000 dwt, favouring a limit of 8,000 dwt.

Draft amendments to SOLAS regulation II-2/4.5.5

6.16 The Sub-Committee noted that, taking into account the agreed lower size limit for new tankers (see paragraph 6.14), the group had prepared draft amendments to SOLAS regulation II-2/4.5.5, as set out in the annex to document FP 54/WP.2, and agreed that the draft amendments should be further considered at FP 55.

6.17 The Sub-Committee also noted that the group had:

.1 agreed that the requirements for, and application of, inert gas systems on oil and chemical tankers when carrying cargoes having a flashpoint not exceeding 60°C (closed cup test) should be similar, except that regulations
for chemical tankers also needed to take account of their unique operating profiles and the concerns relative to chemical cargoes;

.2 noted the functional requirement in SOLAS regulation II-2/4.1.6 that the atmosphere in the cargo tanks shall be maintained out of the explosive range, and the requirement in resolution A.567(14) that IGS be designed and operated so as to render and maintain the atmosphere in cargo tanks non-flammable at all times except when such tanks are required to be maintained empty and gas free; had considered the operating profiles presented in document FP 54/6, noting that the atmosphere in the ullage of a full tank is often above the flammable range, and recalled that fire and explosions primarily occurred during discharge, tank cleaning and maintenance; and had agreed that cargo tanks of chemical tankers would not need to be inerted during loading process, but would be required to be inerted prior to commencing discharge and to remain inerted throughout discharge and tank cleaning until the tank is gas free;

.3 noted that certain inerting agents might introduce the risk of electrostatic discharge and had agreed that these agents should be avoided when the atmosphere could be flammable, e.g., when inerting a loaded tank on a chemical tanker;

.4 noted that in the application of inert gas to a chemical tanker, any unfavourable chemical reaction should be avoided; and

.5 concerning proposed amendments to paragraph 5.5.2 of SOLAS regulation II-2/4, agreed that the following alternative draft text proposals needed further careful consideration, and that they could be contained within the IBC Code rather than SOLAS:

"For chemical tankers and gas carriers built on or after [date] when carrying [low-flash point] [flammable] cargoes from the list of products in chapters 17 and 18 of the IBC Code or in annexes 1 to 4 of the MEPC.2 circulars, the application of inert gas may take place after the tank has been loaded but before [the ship leaves the berth of loading or in the event of loading at anchorage] [arrival at the discharge port] [prior to commencing of discharge], before the ship leaves the anchorage position. Only nitrogen is acceptable as inert gas under this provision."
or

"For chemical tankers and gas carriers built on or after [date] when carrying, in specific cargo tanks, products which have a flashpoint of less than 60°C, as contained in the list of products in chapters 17 and 18 of the IBC Code or in the annexes 1 to 4 of the MEPC.2 circulars, the application of inert gas to render the cargo tank non-flammable, may take place after that cargo tank has been loaded but before commencement of discharge and must be continued to be applied until that cargo tank is next gas free. Only nitrogen is acceptable as inert gas under this provision."

6.18 The Sub-Committee, noting that SOLAS regulation II-2/4.5.5 makes reference to the Fire Safety Systems Code, which is currently focused on systems used on oil tankers and may not be fully applicable to systems on chemical tankers, agreed that the design, performance and operational requirements for all inert gas systems, regardless of ship type, should be contained in one document and that a thorough review of chapter 15 of the FSS Code should be undertaken to determine its applicability to chemical tankers, with the possibility of amendments to the Code.

6.19 The Sub-Committee invited the Committee to note that IMO regulations and guidelines regarding inert gas are frequently complex and located in a variety of locations within different instruments and requested it to consider the need to update, revise and consolidate references to inert gas in appropriate IMO instruments.

6.20 The Sub-Committee invited Member Governments and international organizations to submit comments and proposals regarding the draft amendments as set out in the annex to document FP 54/WP.2 and described in the paragraphs above, the applicability of the FSS Code to chemical tankers, and amendments to chapter 15 of the FSS Code and/or the Regulation on inert gas systems on chemical tankers (resolution A.567(14)), to FP 55.

6.21 The Sub-Committee noted that the group, despite having reached agreement on many of the issues, had noted that the existing regulations were quite complex and the interrelationships between SOLAS chapter II-2, the FSS Code, the IBC Code and resolution A.567(14) should be explored before suitable amendments can be proposed.
6.22 Recalling the instruction of MSC 83 that the Sub-Committee should cooperate, if found necessary, with the BLG and DE Sub-Committees in the work on the matter, the Sub-Committee agreed that no input from the DE Sub-Committee was required at this point in time, but that comments from the BLG Sub-Committee should be requested with respect to the proposed draft SOLAS amendments set out in the annex to document FP 54/WP.2.

6.23 In particular, the Sub-Committee requested the BLG Sub-Committee to:

.1 consider that the proposed draft SOLAS amendments may impact chapters 9 and 11 of the IBC Code;

.2 evaluate the impacts of applying inert gas to specific cargoes; and

.3 consider that column "h" in chapter 17 of the IBC Code indicates which cargoes require inerting under that Code and the potential confusion this could cause for seafarers, Administrations and chemical tanker operators, as the criteria for inerting provided in paragraph 21.4.8.1 of the Code are based on environmental control considerations, including a flashpoint of 23ºC, and are different from the criteria in the proposed draft SOLAS amendments.

6.24 The Sub-Committee noted that the group had recalled that in the tank-related fire and explosions investigated by the IIWG (MSC 81/8/1), failure to follow established procedures was observed in a significant number of incidents and that FP 53 had invited the STW Sub-Committee to urgently consider document STW/ISWG 1/5/12 in the context of the revision of the STCW Convention. The Sub-Committee agreed with the view of the group that the matter had not been fully considered by STW 41 (STW 41/16, paragraphs 7.6.5 to 7.6.10) and that the cargo-specific element of the training for chemical tanker endorsements, including the specifics of hazardous chemicals, including low-flash point cargoes, and invited MSC 87 to consider this as an urgent matter in the context of the work on the revised STCW Convention and Code.
7 CLARIFICATION OF SOLAS CHAPTER II-2 REQUIREMENTS REGARDING INTERRELATION BETWEEN CENTRAL CONTROL STATION AND SAFETY CENTRE

General

7.1 The Sub-Committee recalled that, at FP 53, it had established the Drafting Group on Clarification of SOLAS Chapter II-2 Regarding the Interrelation between Central Control Station and Safety Centre and instructed the group to prepare draft clarifications of SOLAS chapter II-2 requirements regarding interrelation between central control stations and safety centres based on document FP 53/8 (CLIA).

7.2 It was also recalled that, at FP 53, the Sub-Committee, having agreed to refer the matter to the Correspondence Group on Explanatory Notes for the Application of the Safe Return to Port Requirements, had approved terms of reference for the group, as set out in paragraph 8.9 of document FP 53/23, and instructed the group to submit a report to FP 54.

Report of the correspondence group

7.3 In considering the relevant part of the report of the correspondence group (FP 54/8 and Add.1), in particular whether there may be an inconsistency between SOLAS regulations II-2/8.5 and II-2/23.6.15 in respect of availability of the functionality of atrium smoke extraction system at the safety centre, the Sub-Committee agreed that the above regulations were not in conflict since the functions of the safety centre are not the same as the central control station.

Instructions to the working group

7.4 Following further discussion on the item 8, the Sub-Committee, recognizing the necessity to make progress on this item, instructed the working group on the Explanatory Notes for the Application of the Safe Return to Ports Requirements, established under agenda item 8, to finalize the text of the draft Clarifications of SOLAS chapter II-2 requirements regarding interrelation between central control stations and safety centres and the associated MSC circular, based on annexes 4 and 5 of the report of the correspondence group (FP 54/8), for consideration by the Sub-Committee.
Report of the working group

7.5 Having considered the part of the report of the working group (FP 54/WP.3), relating to the item, the Sub-Committee:

.1 agreed to the draft Interim clarifications of SOLAS chapter II-2 requirements regarding interrelation between central control stations and associated draft MSC circular, set out in annex ..., for submission to MSC 87 for approval; and

.2 invited the Committee to instruct the STW and NAV Sub-Committees to consider the aforementioned Interim clarifications and provide the outcome of their consideration to the Sub-Committee for coordination purposes when the definitive Clarifications are developed.]

8 EXPLANATORY NOTES FOR THE APPLICATION OF THE SAFE RETURN TO PORT REQUIREMENTS

8.1 The Sub-Committee recalled that, at FP 53, it had agreed to refer matters related to the Explanatory Notes for the application of the safe return to port requirements to the Drafting Group on Clarification of SOLAS Chapter II-2 Regarding the Interrelation between Central Control Station and Safety Centre, and had instructed the group to prepare a consolidated text of the draft Explanatory Notes based on the annex to document FP 53/18/1 (Italy and CLIA).

8.2 It was also recalled that, at FP 53, the Sub-Committee had established the Correspondence Group on Explanatory Notes for the Application of the Safe Return to Port Requirements, and approved terms of reference, as set out in paragraph 18.12 of document FP 53/23, having instructed the group to submit a report to FP 54.

Report of the correspondence group

8.3 The Sub-Committee considered the relevant part of the report of the aforementioned correspondence group (FP 54/8 and Add.1), together with document FP 54/8/1 (Secretariat) on the outcome of SLF 52 and, having approved it in general:

.1 concurred with the group’s view that the ship systems’ capabilities should be included in the List of Operational limitations issued in accordance with SOLAS regulation V/30 and that the quantities of operational parameters, arrangements and procedures to be applied in respect of the possible
different areas of operation of the ship should be described in detail in the
ship's safety management manual;

.2 agreed that the "Document of approval", set out in appendix 2 to the annex
to document FP 54/8, should not be included in the draft Explanatory Notes
since it would be an unnecessary additional burden for Administrations;

.3 decided to remove the interpretations that should be reviewed by the SLF
and NAV Sub-Committees so that the draft Explanatory Notes could be
finalized at this session for submission to MSC 87 for approval, and forward
those interpretations to those Sub-Committees for finalization and
submission to the subsequent session of the Committee for approval and
issuing as an addendum to the Explanatory Notes; and

.4 agreed that the Working Group on Performance Testing and Approval
Standards for Fire Safety Systems, established under agenda item 3,
should consider the comments of the group in respect to the suitability of
IACS UI SC 216 in the light of the safe return to port requirements, taking
into account annex 3 to document FP 54/8, and advise the Sub-Committee
correspondingly (see paragraph 3...).

Outcome of SLF 52

8.4 In considering document FP 54/8/1 (Secretariat), reporting on the outcome of
SLF 52 for matters related to the draft Explanatory Notes for the assessment of passenger
ship systems capabilities, the Sub-Committee, having noted that SLF 52 had recommended
to delete, from the Explanatory Notes, interpretation 15 (of SOLAS regulation II-2/21.3.2) as
being redundant since SOLAS regulation II-2/21.3.2 addresses the flooding of any single
watertight compartment, and interpretation 69 (of SOLAS regulation II-1/8-1) as it contradicts
SOLAS regulation II-1/8-1 and would therefore constitute an amendment to the Convention,
agreed to the recommendations of SLF 52.

Establishment of the working group

8.5 Recalling its relevant decision at FP 53 regarding a working group, the
Sub-Committee established the Working Group on Explanatory Notes for the Application of
the Safe Return to Port Requirements and instructed it, taking into account the comments
and decisions made in plenary, to finalize the draft Explanatory Notes for the assessment of
passenger ship systems capabilities after a fire or flooding casualty, and the associated draft
MSC circular, based on document FP 54/8 and Add.1, taking into account the relevant comments and decisions made by the Sub-Committee and document FP 54/8/1.

[Report of the working group]

8.6 Having received the report of the working group (FP 54/WP.3), the Sub-Committee approved it in general and, in particular:

.1 agreed to the draft Explanatory Notes for the assessment of passenger ship system's capabilities after a fire or flooding casualty and the associated draft MSC circular, set out in annex ..., for submission to MSC 87 for approval; and

.2 invited the Committee to instruct the SLF, NAV and COMSAR Sub-Committees to consider the draft interpretations, set out in annex 4 to document FP 54/WP.3, that fall under their purview and provide the outcome of their consideration to the COMSAR Sub-Committee for coordination purposes with a view to submission to MSC 89 for approval and issuing as an addendum to the Explanatory Notes (see also paragraph 8.3.3).

9 RECOMMENDATION ON EVACUATION ANALYSIS FOR NEW AND EXISTING PASSENGER SHIPS

General

9.1 The Sub-Committee recalled that, at FP 53, it had agreed that a correspondence group should be established to develop alternative scenarios and to discuss the mandatory nature of the Guidelines for evacuation analysis for new and existing passenger ships (MSC.1/Circ.1238), taking into account that the Guidelines are a design tool. FP 53 had also agreed that the proposal by the United States, contained in document FP 53/9/1, on the need to establish uniform life safety criteria to be applied when performing computer fire modelling in connection with evacuation analyses, should be further considered by the aforementioned group.

9.2 It was also recalled that, at FP 53, the Sub-Committee had established the Correspondence Group on Evacuation Analysis for New and Existing Passenger Ships and approved terms of reference, as set out in paragraph 9.5 of document FP 53/23, and instructed the group to submit a report to FP 54.
Report of the correspondence group

9.3 Following consideration of the report of the correspondence group, contained in documents FP 54/9 and FP 54/INF.6 (Germany), the Sub-Committee noted that the group:

.1 did not reach consensus regarding the mandatory nature of the Guidelines (MSC.1/Circ.1238);

.2 agreed that amending the scenarios for evacuation analysis could be useful for the implementation of the Guidelines (MSC.1/Circ.1238); and

.3 agreed that the Guidelines on alternative design and arrangements for fire safety (MSC/Circ.1002) should be amended to include life safety criteria.

9.4 In light of the above, and bearing in mind that there was no concrete proposal for amendments to MSC.1/Circ.1238 and MSC/Circ.1002, the Sub-Committee noted that many delegations did not support the proposal for the Guidelines (MSC.1/Circ.1238) to become a mandatory instrument; and invited Member Governments and international organizations to submit detailed proposals to FP 55, which should not address the mandatory nature of the Guidelines for evacuation analysis for new and existing passenger ships (MSC.1/Circ.1238), as this matter should be considered after the draft amendments are agreed by the Sub-Committee.

9.5 In view of the above development, the Sub-Committee agreed to invite the Committee to extend the target completion year of this planned output to 2011.

9.6 In this context, the delegation of France informed the Sub-Committee of a project being carried out by the European Union on this matter, named SAFEGUARD, that could be useful in the further development of this matter. Additionally, the delegation stated their intention to submit a preliminary report on the project to FP 55.
10 CONSIDERATION OF IACS UNIFIED INTERPRETATIONS

General

10.1 The Sub-Committee recalled that FP 53, in considering document FP 53/12 (IACS), seeking clarification on the application of SOLAS regulation II-2/7.5.5 on control stations, on which of the three protection methods (IC, IIC, IIIC) should be used in a control station, the Sub-Committee had agreed that the three protection methods required fixed fire detectors and fire alarm systems should be installed in control stations. The fire-extinguishing system should be compatible with the equipment and protection method used in the accommodation spaces. In this context, the observer from IACS had informed the Sub-Committee that it intended to submit an IACS UI on this matter to this session.

10.2 The Sub-Committee also recalled that FP 53, in considering document FP 53/12/2 (IACS), containing updates to two IACS unified interpretations (UI SC 42 and UI SC 43) related to the implementation of SOLAS regulation II-2/20.3, had agreed with them, in principle. However, having recognized that the IEC standard was addressed elsewhere in MSC/Circ.1120, the Sub-Committee had invited IACS to undertake a complete review of MSC/Circ.1120 in the context of this IEC standard and submit a document on this matter to FP 54.

10.3 It was further recalled that, at FP 53, the Sub-Committee, having considered a proposal by the Secretariat (FP 53/WP.8), based on the IACS Unified Interpretations contained in document FP 51/9/9, and the proposed modifications in document FP 53/12/3, and having noted that:

.1 several delegations were of the opinion that the text was technically appropriate; and

.2 the majority of the delegations expressed some concerns regarding the transitory exemptions in the ship water ballast exchange and its berthing condition,

could not agree to the draft Unified interpretations of the FSS Code. However, noting that there was support for the proposal, the Sub-Committee had decided to further consider document FP 53/WP.8, and invited Member Governments and international organizations to submit comments and proposals on this matter to FP 54.
Location of the fire main isolation valves in tankers

10.4 In considering document FP 54/10 (IACS), seeking clarification on the application of SOLAS regulation II-2/10.2.1.4.4 on the determination of what constitutes a "protected position" of the isolation valve used to preserve the integrity of the fire main system in case of fire or explosion, the Sub-Committee agreed that a fire in the cargo area could render the valve inaccessible/inoperable and that the valve itself, as well as the means to access the valve, should be protected to the same extent as that afforded by the poop front bulkhead, in which case the valve would need to be located within the accommodation space, but within the general area of the front of the deck-house structure. In this context, the observer from IACS informed the Sub-Committee that it intended to submit an IACS unified interpretation on this matter to FP 55.

Fitting of fixed local application fire-fighting systems

10.5 The Sub-Committee considered a proposal by IACS (FP 54/10/1) of an interpretation of SOLAS regulation II-2/10.5.6.3.1, in particular, for the extent that diesel engine-driven hydraulic power packs, used solely for cargo operations, are required to be protected by a fixed local application fire-fighting system and, noting that IACS UI SC 176 contains an interpretation of SOLAS regulation II-2/10.5.6 on fixed local application of fire-extinguishing systems, agreed that regardless of its use, internal combustion machinery (located in a category A machinery space greater than 500 m³), is required to be protected by a fixed local application fire-fighting system. In light of the above, the observer from IACS informed the Sub-Committee of its intention to submit a document on this matter to FP 55.

Suction piping of emergency fire pumps

10.6 In considering document FP 54/10/2 (IACS), seeking for assistance, in order to finalize a unified interpretation on suction piping of emergency fire pumps, which are run through the machinery space, the Sub-Committee agreed on the interpretations contained in paragraph 3 of the document, and noted the information from the observer from IACS of its intention to submit a document on this issue to FP 55.

Sources of power supply for fixed fire detection and fire alarm systems

10.7 The Sub-Committee considered document FP 54/10/3 (IACS), containing IACS UI SC 35 (revision 2) relevant to paragraph 9.2.2 of the FSS Code, related to sources of power supply for fixed fire detection and fire alarm systems. The original version of this unified interpretation provided an interpretation of SOLAS regulation II-2/13.1.3 before these
provisions were transferred to paragraph 9.2.2 of the FSS Code. The Sub-Committee, noting that FP 53 had prepared amendments to chapter 9 of the FSS Code, with a view to approval at MSC 87, and considering the actual need for the aforementioned interpretation, agreed that it is necessary for the existing chapter 9 of the FSS Code. Further to the above, the Sub-Committee agreed that the issue of use of batteries needed substantive consideration and, taking into account that this matter was within the scope of the correspondence group established under item 3 (Performance testing and approval standards of fire safety systems), instructed the group to further consider IACS UI SC 35 (revision 2), and advise the Sub Committee accordingly (see also paragraph 3...).

Emergency fire pumps in cargo ships

10.8 In considering document FP 54/10/4 (IACS), providing a revised draft of a part of the unified interpretation that was developed at FP 53 (FP 53/WP.8) on paragraph 2.2.1.3 of chapter 12 of the FSS Code, which took into account the comments raised at that session, the Sub-Committee agreed to the draft Unified interpretation of chapter 12 of the FSS Code, and the associated draft MSC circular, set out in annex ..., for submission to MSC 88 for approval.

Pending matters

10.9 In recalling that, at FP 53, the Sub-Committee had:

.1 noted that IACS intended to submit a unified interpretation on the application of SOLAS regulation II-2/7.5.5 on control stations (FP 53/12) to FP 54; and

.2 invited IACS to undertake a complete review of MSC/Circ.1120, in the context of this IEC standard (FP 53/12/2), and submit a document on this matter to this session,

the Sub-Committee noted information provided by the IACS observer that the unified interpretation on the application of SOLAS regulation II-2/7.5.5 on control stations would be submitted to FP 55, and that IACS had included in its work programme a complete review of MSC/Circ.1120, which was not finalized to date.
11 FIXED HYDROCARBON GAS DETECTION SYSTEMS ON DOUBLE-HULL OIL TANKERS

General

11.1 The Sub-Committee recalled that MSC 84, having considered document MSC 84/22/7 (France, Finland and Germany), had agreed to expand the Sub-Committee's existing work programme item on "Fixed hydrocarbon gas detection systems on double-hull oil tankers" to also consider means to avoid explosions in double spaces of double-hull oil tankers after gas detection, in cooperation with the BLG Sub-Committee.

11.2 The Sub-Committee also recalled that, at FP 53, it had instructed the Correspondence Group on Performance Testing and Approval Standards for Fire Safety Systems to further consider the matter and to submit a report to FP 54, and had approved relevant terms of reference, as set out in paragraph 13.13 of document FP 53/23.

Report of the correspondence group

11.3 In considering the relevant part of the report of the Correspondence Group on Performance Testing and Approval Standards for Fire Safety Systems, as contained in document FP 54/11 (United States), together with document FP 54/11/1 (Japan), the Sub-Committee:

.1 endorsed the group's view that duplicate extraction pumps should be provided, but that the carriage of onboard spares could be accepted by the Administration as equivalent;

.2 supported, in general, the modifications to the draft Guidelines contained in document FP 54/11/1;

.3 in noting that the standard IEC 60079-29-1 (Gas detectors – Performance requirements of detectors for flammable gases) referred to in paragraph 2.2.1.1 of the draft Guidelines, applies to gas detectors and not gas analysis, agreed to appropriate editorial modifications to paragraph 2.2.1 of the draft Guidelines; and
.4 agreed to delete the last sentence of paragraph 1.1 of the draft Guidelines, as the Convention contains provisions for the application of the draft regulation II-2/4.5.7* (Gas measurement and detection).

Instructions to the drafting group

11.4 Recognizing the need to finalize the draft Guidelines for submission to MSC 87 for approval in conjunction with the adoption of amendments to SOLAS regulation II-2/4.5.7 and the new chapter 16 (Fixed hydrocarbon gas detection systems) of the FSS Code, the Sub-Committee instructed the Drafting Group on Comprehensive Review on the Fire Test Procedures Code, established under agenda item 4, to finalize the text of the draft Guidelines for the design, construction and testing of fixed hydrocarbon gas detection systems, and associated draft MSC circular, based on the report of the correspondence group (FP 54/11), taking into account comments and decisions made in plenary and document FP 54/11/1.

[Report of the drafting group]

11.5 Having considered the part of the report of the drafting group (FP 54/WP.7) relating to this item, the Sub-Committee agreed to the draft Guidelines for the design, construction and testing of fixed hydrocarbon gas detection systems and the associated draft MSC circular, as set out in annex ..., for submission to MSC 87 for approval.

Completion of the item

11.6 Subsequently, the Sub-Committee invited the Committee to note that the work on this item had been completed.]

12 HARMONIZATION OF THE REQUIREMENTS FOR THE LOCATION OF ENTRANCES, AIR INLETS AND OPENINGS IN THE SUPERSTRUCTURES OF TANKERS

General

12.1 The Sub-Committee recalled that, at FP 51, it had decided that a new item should be established in the Sub-Committee's work programme to consider a single comprehensive approach to harmonize the admissible distances required in SOLAS chapter II-2 and the IBC and IGC Codes for entrances, air inlets and openings in the superstructures of tankers, taking into account standard IEC 60092-502, the unified interpretations contained in

* The draft SOLAS regulation II-2/4.5.7 (Gas measurement and detection) was approved by MSC 86, with a view to adoption at MSC 87.
MSC/Circ.474, MSC/Circ.1120 and MSC/Circ.1203 and document FP 51/9/4 (IACS), and had agreed to a justification for the proposal for a new work programme item (FP 51/19, annex 6) for consideration by MSC 83.

12.2 It was also recalled that, at MSC 83, the Committee had endorsed the proposal by FP 51 and had decided to include, in the Sub-Committee's work programme, a high-priority item on "Harmonization of the requirements for the location of entrances, air inlets and openings in the superstructures of tankers", with two sessions needed to complete the item.

12.3 The Sub-Committee further recalled that, at FP 53, it had invited Member Governments and international organizations to submit comments and proposals to FP 54.

Options for harmonizing the existing requirements

12.4 The Sub-Committee had for its consideration under this agenda item document FP 54/12 (Argentina), presenting two different options for harmonizing the requirements that exist in various IMO instruments and other international standards with regard to ignition of flammable gases or vapours that can enter through separate openings to a ship's working or accommodation spaces, as follows:

.1 refine the current prescriptive approach, by producing a comparative table of all requirements in various IMO instruments before proceeding to harmonize all of them in comparison with other international standards; or

.2 amend the FSS Code, introducing a new chapter containing the harmonized requirements. Subsequently, the IBC and IGC Codes and the SOLAS Convention would need to be amended to refer to the new chapter of the FSS Code.

12.5 In considering the above proposal, the Sub-Committee noted the view of the delegation of France that the application of the provisions of standard IEC 600092-502 to avoid the ignition of gases coming from the cargo area in tankers would mean a reduction of the current IMO safety level. In this context, the Sub-Committee also noted that several delegations considered that it was not appropriate to achieve the harmonization proposed in document FP 54/12 by developing a new chapter to the FSS Code, due to the inclusion of provisions for chemical and gas tankers.

12.6 The delegation of the United States expressed the view that if language excerpted from the IEC standard was inserted into the FSS Code, this may cause conflicts for
Administrations that have higher standards for hazardous area protection. Depending on the arrangement of the vessel and the availability of natural or mechanical ventilation, the proposed new area classifications could result in a lower level of safety than that currently contained in the SOLAS Convention and the IBC and IGC Codes. Another consideration was that standard IEC 60092-502 is focused on electrical sources of ignition, which is only one element of the hazard. They informed the Sub-Committee that the ISGOTT safety guide, for instance, discusses many other sources of ignition, such as open flames, sparks, heated surfaces and static discharge that need to be considered. In concluding, the delegation pointed out that, in addition to the risk of ignition, the toxicity of petroleum and chemical vapours should be taken into account when considering the location of entrances and air inlets to the accommodations.

12.7 The Sub-Committee noted the opinion of the delegation of Argentina that the safety requirements contained in IEC standards were, in general, superior to those contained in similar IMO regulations, as presented in its document FP 54/12. The delegation of Argentina also highlighted that all chapters of the FSS Code are applicable to chemical and gas carriers, except when the relevant Codes establish a different requirement. In case of cargoes producing inflammable gases, there would not be any technical reason to establish different safety distances to avoid the ignition of those gases just because of the type of ship.

12.8 Having considered the above views, the Sub-Committee agreed on the need to further consider the matter with a view to taking a broader approach than the aforementioned IEC standard, and invited Member Governments and international organizations to submit pertinent comments and proposals to FP 55.

Extension of the target completion year

12.9 In view of the above, the Sub-Committee invited the Committee to extend the target completion year for the output to 2011.

13 AMENDMENTS TO SOLAS CHAPTER II-2 RELATED TO THE RELEASING CONTROLS AND MEANS OF ESCAPE FOR SPACES PROTECTED BY FIXED CARBON DIOXIDE SYSTEMS

13.1 The Sub-Committee recalled that, at FP 51, it had prepared a justification for the proposal for a new work programme item (FP 51/19, annex 3), which requested an extended review of safety matters relating to the installation of total flooding carbon dioxide systems, including system discharge control arrangements and criteria for lighting and marking of the means of escape from the protected space.
13.2 The Sub-Committee noted that MSC 83 had endorsed the proposal by FP 51, and had decided to include, in the Sub-Committee's work programme, a high-priority item on "Amendments to SOLAS chapter II-2 related to the releasing controls and means of escape for spaces protected by fixed carbon dioxide systems" with two sessions needed to complete the item.

13.3 It was also recalled that FP 53, having noted that no documents had been submitted to that session, and recognizing the need to progress this matter, had invited Member Governments and international organizations to submit relevant comments and proposals to FP 54.

13.4 Having noted that no documents had been submitted to this session, the Sub-Committee, taking into account that releasing controls for fixed CO₂ systems had already been addressed under agenda item 3 (Performance testing and approval standards for fire safety systems) and that escape from machinery spaces will be addressed under agenda item 14 (Means of escape from machinery spaces), agreed to invite the Committee to note that the work on this item had been completed.

14 MEANS OF ESCAPE FROM MACHINERY SPACES

General

14.1 The Sub-Committee recalled that FP 53, in considering document FP 53/16 (Denmark, Norway and Sweden), proposing amendments to SOLAS regulations II-2/13.4.1 and II-2/13.4.2 to introduce requirements on independent means of escape from enclosed working spaces, had agreed, in principle, to the proposed SOLAS amendments and had invited Member Governments and international organizations to submit comments and proposals to FP 54.

Consideration of the draft amendments

14.2 In considering document FP 54/14 (Chile, Denmark, Norway and Sweden), proposing draft amendments to SOLAS regulations II-2/13.4.1 and II-2/13.4.2 on means of escape from machinery control rooms and other enclosed spaces within machinery spaces of cargo and passenger ships, the Sub-Committee, taking into account comments made at FP 53, agreed, in principle, to the draft amendments and proposed that the draft amendments should apply to new ships only.
14.3 Recognizing that there is a need to further consider the draft amendments, in particular to clarify terms, including that of "such ladders", "enclosed spaces" and "continuous fire shelter", and to address the exception for small ships; and noting concerns raised regarding paragraph 10 of document FP 54/14 on hardware on board "left to the discretion of the Administration", which would require the development of a unified interpretation in the future, the Sub-Committee invited Member Governments and international organizations to submit comments and proposals to FP 55.

Investigation into casualty of the "Rio Blanco"

14.4 In this context, the delegation of Chile, highlighting the importance of the item, informed the Sub-Committee of the accident report triggered by the investigation into a fire on the Chilean-flagged pure car carrier Rio Blanco, at the port of Santos, Brazil. The investigation was conducted in accordance with the Code for Investigation of Marine Casualties and Incidents (resolution A.849(20)).

14.5 The Sub-Committee was further informed that, at 21:40 h on 16 February 2008, during the dismantling of two diesel-oil system valves located in the engine-room, some oil sprayed on to the crew member who was carrying out the work, and then on to a generator which was in operation, leading to a large-scale fire. The initial scale of the accident was such that no one in the vicinity was able to control the fire with portable extinguishers, and the order was given to abandon the engine-room. Within a few minutes this action was made more difficult by the high temperature and smoke being generated, and by a black-out which left the ship with only emergency lighting. As to the people remaining in the engine-room, the crew member who had been dismantling the valves was caught up in the flames at the beginning of the fire, and could not be helped. Those who had not managed to leave the engine-room at the first attempt, by fore or aft escape routes, joined those who were in the engine control room and tried unsuccessfully to abandon ship via the stern. Unable to see because of the smoke, they then used various escape routes up to the main deck. However, two engineering officers went back to the engine control room, from where, despite the efforts of crew members and fire-fighters, it proved impossible to recover them alive.

14.6 The Sub-Committee noted the view expressed by the delegation of Chile that if the engine control room of the Rio Blanco had been equipped with escape routes, the two officers who died from asphyxiation from the smoke would have met a kinder fate. The delegation considered SOLAS chapter II-2 to be inconsistent, in that it stipulates escape routes from enclosed machinery spaces for passenger ships, but not for other types of ship. Since engine-room crew members all perform similar tasks, the delegation considered it
important to pursue the development of the draft amendments that were proposed by the co-sponsors of document FP 54/14 (see paragraph 14.2).

15 REVIEW OF FIRE PROTECTION REQUIREMENTS FOR ON-DECK CARGO AREAS

15.1 The Sub-Committee recalled that MSC 83, having considered document MSC 83/25/5 (Germany), proposing to review the fire protection requirements of SOLAS chapter II-2 to address fire risks related to on-deck cargo areas, had agreed to include, in the Sub-Committee’s work programme, a high-priority item on “Review of fire protection requirements for on-deck cargo areas”, with three sessions needed to complete the item, in cooperation with the DSC Sub-Committee as necessary and when requested by the Sub-Committee.

15.2 The Sub-Committee also recalled that, at FP 53, having considered documents FP 53/17 and FP 53/INF.2 (Germany), presenting an overview of the ongoing Formal Safety Assessment (FSA) on fire safety of deck containers carried out by Germany, which summarized results from the first step of the FSA study and providing the key data relating to the existing risk level, it had agreed to further consider this matter at FP 54, taking into account the aforementioned FSA study, and invited Member Governments and international organizations to submit relevant comments and proposals to FP 54.

15.3 Following consideration of documents:

.1 FP 54/15 (Germany), providing a summary of the results of the FSA study on Container fire on deck carried out by Germany, along with proposals for improving fire safety of on-deck cargo areas; and

.2 FP 54/INF.2 (Germany), presenting further details of the FSA study on Container fire on deck, as contained in document FP 54/15,

the Sub-Committee, having noted the view on the need for monitors and thermal cameras on deck for detecting containers that may be on fire or at risk, invited Member Governments and international organizations to submit comments and proposals on the item.
16 ANALYSIS OF FIRE CASUALTY RECORDS

General

16.1 The Sub-Committee recalled that FP 53, having considered document FP 53/19/1 (Denmark and Faroe Islands), providing information on the very serious fire that occurred in April 2007 on the Faroese fishing factory vessel Hercules, had noted that:

1. lamp fixtures of poor quality had caused the fire;
2. fire-fighting and the search for crew members in the accommodation was transitory due to the lack of air supply in the smoke divers' air breathing apparatuses; and
3. the draft amendments to the SOLAS chapter II-2 prepared by the sponsors.

16.2 It was also recalled that FP 53, in light of the above, had invited Denmark to submit a proposal to the Committee for a new work programme item, in accordance with the Guidelines on the organization and method of work (MSC-MEPC.1/Circ.2) and had requested the Secretariat to forward document FP 53/19/1 to FSI 17 for further consideration.

Fire casualty on board the fishing factory vessel "Hercules"

16.3 In considering document FP 54/16 (Secretariat), on matters related to the very serious fire that occurred in April 2007 on the Faroese fishing factory vessel Hercules, the Sub-Committee noted, in particular, that:

1. FSI 17 had referred document FP 53/19/1 to its Working Group on Casualty Analysis, noting that the investigation report had been included into GISIS and was also available on the homepages of the Faroese Maritime Authority and Danish Maritime Authority. Based on a preliminary consideration of the report, FSI 17 found some important safety issues, such as poor communication among crew members, inadequate instructions and drills, technical aspects of the electrical installations and provision of an air compressor on board, and referred the investigation report to the STW, DE and FP Sub-Committees for consideration;
.2 MSC 86, noting that Denmark and the Faroe Islands had submitted proposals for two new high-priority work programme items on "General requirements on electrical installations" and "Means for recharging air bottles for air breathing apparatuses" for the DE and FP Sub-Committees, respectively, agreed to refer the investigation report on the fire on the fishing factory vessel Hercules to the FP, DE and STW Sub-Committees for consideration;

.3 with regard to the proposals for relevant new work programme items contained in documents MSC 86/23/14 and MSC 86/23/15 (Denmark and Faroe Islands), MSC 86 agreed:

.1 concerning the proposal to develop amendments to SOLAS regulation II-2/10.10.2 regarding requirements for fire-fighters' breathing apparatuses, to include in the work programme of the FP Sub-Committee and the provisional agenda for FP 54, a high-priority item on "Means for recharging air bottles for air breathing apparatus", with a target completion date of 2011; and

.2 concerning the proposal to develop amendments to SOLAS regulation II-1/40.2 regarding general requirements on electrical installations, to include in the work programme of the DE Sub-Committee, a high-priority item on "General requirements on electrical installations", with two sessions needed to complete the item.

16.4 Taking into account that the outcome of FSI 17 on issues related to breathing apparatus will be considered under agenda item 21 (Means for recharging air bottles for air breathing apparatus), the Sub-Committee noted that the Hercules had not been certified under the SOLAS Convention and, for this reason, any conclusion on this casualty should take into account that the consequences of the same fire on a SOLAS certified ship would likely have a different outcome and any the lesson learnt would be also be different.

16.5 In this context and based on the evidence contained in the investigation report, the Chairman highlighted that requiring new safety equipment to mitigate the consequences of a fire on a non-SOLAS certified ship with a deficient ship safety management system, would not necessarily represent a safety improvement. In the Hercules casualty, for example, the
fire alarm and fire detection failed, the air breathing apparatus failed, the speed of the fire grew quickly due to ineffective fire resistant divisions, which increased the smoke generation and propagation, seriously reducing visibility and increasing toxic gases within the ship.

16.6 Subsequently, the Sub-Committee requested the Secretariat to forward the above views to FSI 18.

17 RECOMMENDATIONS FOR ENTERING ENCLOSED SPACES ABOARD SHIPS

General

17.1 The Sub-Committee recalled that MSC 85 had considered a proposal by DSC 13 to review and revise, as necessary, the specific provisions of the Recommendations for entering enclosed spaces aboard ships (resolution A.864(20)) and had agreed to include, in the work programmes of the BLG, DSC, FP and STW Sub-Committees and the provisional agenda for DSC 14, a high-priority item on "Revision of the Recommendations for entering enclosed spaces aboard ships", with a target completion date of 2010, assigning the DSC Sub-Committee as a coordinator. As further instructed by MSC 85, FP 53 gave preliminary consideration to the matter and included the item in the provisional agenda for FP 54.

17.2 The Sub-Committee further recalled that, at FP 53, having noted the decisions of MSC 85 on this issue, and having considered that there were no documents submitted to the session, it had invited Member Governments and international organizations to submit comments and proposals on this matter to FP 54.

Outcome of DSC 14

17.3 In considering document FP 54/17 (Secretariat), the Sub-Committee noted that DSC 14 had:

.1 identified three issues to be discussed with regard to this work, namely:

.1 the Marine Accident Investigators' International Forum (MAIIF) on entry into enclosed spaces;

.2 proposals for amendments to the Recommendations for entering enclosed spaces aboard ships (resolution A.864(20)); and

.3 a proposal for amendments to SOLAS regulation III/19 to mandate enclosed space entry and rescue procedure drills, which has been submitted to MSC 87 for consideration;
.2 noted that MAIIF had identified various areas of concern regarding the inadequacies in safety management systems, training and drills related to the procedures for safe entry and safe rescue from enclosed spaces;

.3 agreed to take the information provided by MAIIF into account when preparing amendments to resolution A.864(20) and requested the Secretariat to issue document DSC 14/INF.9 so that it would be available for consideration at STW 41, BLG 15 and FP 54;

.4 agreed, in principle, to a proposal from Sweden (DSC 14/16) related to the risks associated with the transporting oxygen-depleting cargoes and materials; and

.5 established a correspondence group to progress the work on this issue and instructed it to submit a report to DSC 15.

Outcome of STW 41

17.4 Being informed of the outcome of STW 41 on this matter, the Sub-Committee noted that STW 41 had agreed to request the Committee to decide whether any additional training was necessary for entry into enclosed spaces after consideration of the reports of sub-committees concerned with this issue and, if so, invite the STCW Conference to include additional training measures in the proposed amendments to the STCW Convention and STCW Code.

Outcome of BLG 14

17.5 With regard to the outcome of BLG 14 on this matter, the Sub-Committee noted that the BLG Sub-Committee had not proposed any amendments to the Recommendations at this stage, had considered the work on the item completed and had invited the Committee to note the outcome. However, having recognized the importance of the issue, BLG 14 welcomed further work on areas where it had special expertise, if such needs were identified by the Committee. The Sub-Committee also noted that BLG 14 had encouraged Member Governments and international organizations to take part in the work of the correspondence group established at DSC 14 (see paragraph 17.3.5).
Discussion

17.6 The Sub-Committee had the following documents for consideration under this agenda item:

.1 FP 54/17/1 (IPTA), proposing the development of guidelines for tank entry on chemical tankers;

.2 FP 54/17/2 (United States), proposing comprehensive amendments to the Recommendations in resolution A.864(20), based on this Administration's experiences with entry into shipboard enclosed spaces; and

.3 FP 54/17/3 (OCIMF), commenting on document FP 54/17/1 by IPTA on a guidance on enclosed space entry specifically for chemical tankers.

17.7 Having considered the above documents, the Sub-Committee noted that proposals contained in document FP 54/17/2 had also been submitted to the correspondence group established at DSC 14 for consideration. Consequently, the Sub-Committee, in order to avoid a duplication of work, decided to await the outcome of DSC 14's consideration of the aforementioned group's report.

17.8 With regard to documents FP 54/17/1 and FP 54/17/3, the Sub-Committee, in noting that the development of separate guidelines specific to oil and chemical tankers as proposed in document FP 54/17/1 was outside the scope of this item, recalled that it was instructed to review and revise, as necessary, the specific provisions of the Recommendations for entering enclosed spaces aboard ships (resolution A.864(20)), taking into account the health and safety of personnel on board entering enclosed spaces.

17.9 Notwithstanding the above, the Sub-Committee noted the views of some delegations on the need to have specific IMO recommendations to deal with the risks associated with cargo spaces protected by inert gas systems. In this context, the Sub-Committee also noted the views of the majority of delegations who spoke that two sets of recommendations could cause confusion in the industry and, therefore, the existing general approach of the Recommendations (resolution A.864(20)) should be maintained to cover the risks for entering enclosed spaces from a global perspective (i.e. applicable to entry into any enclosed space), bearing in mind that some spaces present higher risks than others.
17.10 In summarizing the discussion, the Chairman highlighted the areas of general agreement; in particular, he pointed out that the vast majority of those that spoke on the issue agreed that:

.1 only one set of general recommendations should be developed by IMO to provide guidance to the industry on the risks associated with entering enclosed spaces aboard ships;

.2 the provisions of the ISM Code should be strengthened to promote awareness regarding the need to follow established safety procedures for enclosed space entry and rescue; and

.3 that some of the proposals contained in the submission by IPTA (FP 54/17/1) should be considered in the context of revision of the Recommendations.

17.11 In light of the above and taking into account the related comments contained in paragraphs 6.5.4 and 6.5.5, the Sub-Committee decided to instruct the Working Group on Measures to Prevent Explosions on Oil and Chemical Tankers Transporting Low-Flashpoint Cargoes, established under agenda item 6 (see paragraph 6.8), to consider document FP 54/17/1 and advise the Sub-Committee on the proposals contained in the annex to the document that can be incorporated in the Recommendations for entering enclosed spaces aboard ships (resolution A.864(20)), from a generic perspective, applicable to all inert spaces regardless of the inert gas used.

[Report of the working group]

17.12 Having considered the part of the report of the working group (FP 54/WP.2) related to this item, the Sub-Committee took action as outlined hereunder.

17.13 The Sub-Committee noted that the group had considered document FP 54/17/1, with a view to determining which specific aspects of the proposed guidance for tank entry on chemical tankers contained in the annex to the document should be considered by the DSC Sub-Committee, in the context of their work on the revision of resolution A.864(20) on Recommendations for entering enclosed spaces aboard ships and, having considered the outcome of the group, agreed that the entire guidance be referred to the DSC Sub-Committee for comments, taking into account its applicability to all tankers.
17.14 In addition to taking into account its applicability to all tankers, the Sub-Committee agreed that section 2 (Use of nitrogen) of the proposed guidance should be specifically considered by the DSC Sub-Committee, with a view to including relevant provisions in the revised Recommendations for entering enclosed spaces aboard ships and encouraged Member Governments and international organizations to take part in the DSC Correspondence Group on the matter.

17.15 In this context, the Sub-Committee, recognizing that the expertise on such tanker-related issues lies within the BLG Sub-Committee and that it may be beneficial if the draft guidance contained in the annex to document FP 54/17/1 was also brought to the attention of that Sub-Committee for its expert consideration, taking into account its applicability to all tankers, agreed to refer the draft guidance also to the BLG Sub-Committee.

17.16 The Secretariat was requested to inform the BLG and DSC Sub-Committees of the above outcome and invited the Committee to extend the target completion year of the planned output to 2011.

18 FIRE INTEGRITY OF BULKHEADS AND DECKS OF RO-RO SPACES ON PASSENGER AND CARGO SHIPS

18.1 The Sub-Committee recalled that, at MSC 85, the Committee had considered document MSC 85/23/3 by China, proposing to amend the SOLAS chapter II-2 requirements on fire integrity of boundary bulkheads and decks of ro-ro spaces for passenger ships carrying not more than 36 passengers and cargo ships, with a view to classifying both special spaces and ro-ro cargo spaces of ro-ro passenger ships as high-fire risk spaces, and had agreed to include, in the work programme of the Sub-Committee, a high-priority item on "Fire integrity of bulkheads and decks of ro-ro spaces on passenger and cargo ships", with two sessions needed to complete the item.

18.2 In considering document FP 54/18 (China), proposing amendments to SOLAS regulation II-2/9, tables 9.3 and 9.4 and, consequently, deletion of regulations II-2/9.6.2 and II-2/9.6.3 on fire integrity of bulkheads and decks separating adjacent spaces of ro-ro spaces for passenger ships carrying no more than 36 passengers and cargo ships, the Sub-Committee, having decided that the amendments should apply to new ships only, agreed to the draft amendments, with minor modifications, for submission to MSC 88 for approval and subsequent adoption.
18.3 In the course of the discussion, the Sub-Committee, having noted the concern expressed by the delegation of Japan that requiring class "A-30", as proposed (FP 54/18, annex) might not be appropriate in some cases for decks between ro-ro spaces or vehicle spaces of cargo ships, and their proposal to further consider the matter, agreed to take no action at this stage.

18.4 Subsequently, the Sub-Committee considered that the item had been completed and invited the Committee to note the developments.

19 REQUIREMENTS FOR SHIPS CARRYING HYDROGEN AND COMPRESSED NATURAL GAS VEHICLES

19.1 The Sub-Committee recalled that, at MSC 85, the Committee had considered document MSC 85/23/5 (Japan), proposing to develop appropriate safety requirements in SOLAS chapter II-2 for ships carrying hydrogen vehicles (HFCVs) and compressed natural gas vehicles (CNGVs), and had agreed to include, in the work programme of the Sub-Committee, a high-priority item on "Requirements for ships carrying hydrogen and compressed natural gas vehicles", with two sessions needed to complete the item.

19.2 The Sub-Committee also recalled that, at MSC 85, the Committee, having noted the views of several delegations that this work item should be expanded to cover other types of vehicles not currently addressed in the provisions of SOLAS chapter II-2, had invited Member Governments and international organizations to submit relevant proposals to the Committee, in accordance with the Guidelines on the organization and method of work.

19.3 In considering documents FP 54/19 and FP 54/INF.4 (Japan), containing information on the features of hydrogen fuel cell and compressed natural gas vehicles, in order to provide a common understanding on the characteristics of the aforementioned vehicles to make possible the consideration of the requirements for cargo spaces intended for the carriage of those vehicles, the Sub-Committee agreed on the need to progress on this matter intersessionally, taking into account that vehicle batteries are an important issue and should be included in the work to be undertaken.

19.4 Subsequently, the Sub-Committee established the Correspondence Group on Requirements for Ships Carrying Hydrogen and Compressed Natural Gas Vehicles, under the coordination of Japan,* and instructed the group, taking into account the relevant information contained in documents FP 54/19 and FP 54/INF.4, to:

* Coordinator: [to be determined]
.1 consider the information on HFCVs and CNGVs contained in documents FP 54/19 and FP 54/INF.4;

.2 identify hazards involved in carriage of hydrogen and compressed natural gas vehicles, including high voltage and large capacity batteries;

.3 clarify necessary safety requirements for cargo spaces intended for carriage of hydrogen and compressed natural gas vehicles;

.4 prepare draft amendments to SOLAS chapter II-2 and/or related guidelines, as appropriate, for consideration by the Sub-Committee; and

.5 submit a report to FP 55.

20 GUIDELINES FOR A VISIBLE ELEMENT TO GENERAL EMERGENCY ALARM SYSTEMS ON PASSENGER SHIPS

20.1 The Sub-Committee recalled that, at MSC 86, the Committee had considered documents MSC 86/23/10 and MSC 86/INF.2 (United States and CLIA), proposing to develop non-mandatory guidelines regarding a visible element to the general emergency alarm on passenger ships to accommodate passengers who are deaf or hard of hearing, and agreed to include, in the work programmes of the FP and DE Sub-Committees and provisional agendas for FP 54 and DE 53, a high-priority item on "Guidelines for a visible element to general emergency alarm systems on passenger ships", with a target completion date of 2012, assigning the DE Sub-Committee as the coordinator.

20.2 In considering document FP 54/20 (Secretariat), on the outcome of DE 53 on this matter, the Sub-Committee noted that DE 53 had considered documents DE 53/20 (United States) and DE 53/20/1 (CLIA), both proposing draft Guidelines for the design and installation of a visible element to the general emergency alarm on passenger ships to accommodate passengers who are deaf or hard of hearing and, having noted that both proposals were supported and had many similarities that could be easily harmonized, had invited the delegation of the United States to submit consolidated draft Guidelines to DE 54, taking into account the comments made at DE 53.

20.3 In view of the decision of DE 53, and taking into account that DE 54 will take place before FP 55, the Sub-Committee agreed to postpone consideration of this matter until the outcome of DE 54 could be considered, and invited Member Governments and international
organizations to submit relevant comments and proposals to FP 55, taking into account the outcome of DE 54.

21 MEANS FOR RECHARGING AIR BOTTLES FOR AIR BREATHING APPARATUSES

21.1 The Sub-Committee recalled that, at MSC 86, the Committee had considered document MSC 86/23/15 (Denmark and Faroe Islands), proposing to develop amendments to SOLAS regulation II-2/10.10.2 concerning requirements for fire-fighters’ breathing apparatuses, and agreed to include, in the work programme of the Sub-Committee and the provisional agenda for FP 54, a high-priority item on "Means for recharging air bottles for air breathing apparatus", with a target completion date of 2011.

21.2 In noting that no documents had been submitted to this session, and recognizing the need to progress this matter, the Sub-Committee invited Member Governments and international organizations to submit relevant comments and proposals to FP 55.

22 WORK PROGRAMME AND AGENDA FOR FP 55

General

22.1 Having noted the adoption of the High-level Action Plan of the Organization and priorities for the 2010-2011 biennium (resolution A.1012(26)), the Sub-Committee further noted that the Assembly, recognizing the need for a uniform basis for the application of the Strategic Plan and the High-level Action Plan throughout the Organization, and for the strengthening of existing working practices through the provision of enhanced planning and management procedures, adopted Guidelines on the application of the Strategic Plan and the High-level Action Plan (resolution A.1013(26)). In particular, the Sub-Committee noted that the Assembly requested the Committee to review and revise, during the 2010-2011 biennium, the Committee's Guidelines on the organization and method of work (MSC-MEPC.1/Circ.2) with a view to bringing them in line with the Guidelines on the application of the Strategic Plan and the High-level Action Plan.

22.2 The Sub-Committee was informed that, in pursuance of the above request, the Secretariat, in consultation with the MSC and MEPC Chairmen, had prepared draft revised Committee's Guidelines for consideration by MSC 87 (MSC 87/23), which also took account of the provisions of the Migration Plan approved by the Council. In this regard, the Sub-Committee noted that the former format for "work programme" had been replaced by a new format for "biennial agenda" and "post-biennial agenda", the former format for the reporting on the status of planned outputs had also been replaced by the new format, and
the Committee Chairmen had agreed to implement the use of the aforementioned new formats from the start of 2010, as set out in annexes 1 and 4 of document FP 54/WP.4.

**Biennial and post-biennial agendas and provisional agenda for FP 55**

22.3 Taking into account the progress made during this session, the decisions of MSC 86 and the provisions of the agenda management procedure, the Sub-Committee prepared the draft biennial and post-biennial agendas of the Sub-Committee and the provisional agenda for FP 55 (FP 54/WP.4), based on the work programme approved by MSC 86 (FP 54/2, annex), as set out in annexes [...] and [...], respectively, for consideration by MSC 87 and action as appropriate. While reviewing the biennial agenda, the Sub-Committee agreed to invite the Committee to:

[to be prepared by the Secretariat after the session]

**Status of planned outputs**

22.4 The Sub-Committee prepared the report of the status of the planned outputs of the High-level Action Plan of the Organization and priorities for the 2010-2011 biennium relevant to the Sub-Committee (FP 54/WP.4, annex 4), as set out in annex ..., which the Committee was invited to consider and take action as appropriate.

**Arrangements for the next session**

22.5 The Sub-Committee agreed to establish, at its next session, working groups on the following subjects:

1. performance testing and approval standards for fire safety systems;

2. measures to prevent explosions on oil and chemical tankers transporting low-flash point cargoes; and

3. requirements for ships carrying hydrogen and compressed natural gas vehicles,

and drafting groups on [fire resistance of ventilation ducts].

22.6 The Sub-Committee established correspondence groups on the following subjects, due to report to FP 55:
.1 performance testing and approval standards for fire safety systems;
.2 fire resistance of ventilation ducts; [and]
.3 requirements for ships carrying hydrogen and compressed natural gas vehicles; [and]
[.4 review of fire protection requirements for on-deck cargo areas].

Urgent items for consideration at MSC 89

22.7 Noting the close proximity between FP 55 (February 2011) and MSC 89 (May 2011), the Sub-Committee invited MSC 87 to agree that, in addition to its biennial agenda and provisional agenda for FP 55, the outcome of FP 55 on the following items should be urgent matters to be considered at MSC 89:

.1 performance testing and approval standards for fire safety systems;
.2 measures to prevent explosions on oil and chemical tankers transporting low-flash point cargoes; and
.3 revision of the Recommendations for entering enclosed spaces aboard ships.

Date of the next session

22.8 The Sub-Committee noted that its fifty-fifth session had been tentatively scheduled to take place from 21 to 25 February 2011.]

23 ELECTION OF CHAIRMAN AND VICE-CHAIRMAN FOR 2011

23.1 In accordance with the Rules of Procedure of the Maritime Safety Committee, the Sub-Committee unanimously re-elected Mr. J.C. Cubisino (Argentina) as Chairman and Mr. C. Abbate (Italy) as Vice-Chairman, both for 2011.

24 ANY OTHER BUSINESS

Emergency escape breathing devices

24.1 In considering document FP 54/24 (United Kingdom), proposing an amendment to SOLAS regulation II-2/13.3.4 concerning the storage location and use of emergency escape breathing devices within accommodation spaces, the Sub-Committee, noting that the above proposal is outside the scope of the Sub-Committee work programme, invited the delegation
of the United Kingdom to submit an appropriate proposal for a new output to the Committee in accordance with the Guidelines on the organization and method of work (MSC-MEPC.1/Circ.2).

Fire-fighting capability of a water-based fire-fighting system with nozzles in a single row arrangement

24.2 The Sub-Committee recalled that documents FP 54/24/1 and FP 54/INF.3 (Republic of Korea) were forwarded to the working group established under agenda item 3 (Performance testing and approval standards for fire safety systems) for consideration (see paragraph ...).

Arrangement of foam-type fire extinguishers

24.3 The Sub-Committee considered document FP 54/24/2 (China), proposing to review the requirement for the arrangement of 45 litre and 135 litre foam-type fire extinguishers in the engine-rooms of cargo ships and, having agreed that this proposal should be considered as a new output, invited the delegation of China to submit an appropriate proposal to the Committee in accordance with the Guidelines on the organization and method of work (MSC-MEPC.1/Circ.2).

Safety provisions applicable to tenders operating from passenger ships

24.4 The Sub-Committee noted that MSC 84 had considered a proposal by the United Kingdom and IACS (MSC 84/22/8) to develop provisions for the design, equipment and operation of tenders carrying passengers and crew from passenger ships to shore, to ensure that a consistent approach is adopted, together with document MSC 84/22/24 (CLIA), in which CLIA pointed out that its members have conducted, without serious incidents, numerous tender vessel operations each year involving tens of thousands of passengers and that, for these reasons, CLIA could not support the proposal without details of tender vessel casualties and more specific guidance as to the scope of the work to be undertaken, bearing in mind that the proposal might result in over-regulation of an already safe operation.

24.5 The Sub-Committee also noted that, following the above discussion, MSC 84 had agreed to include in the work programmes of the DE, FP, COMSAR, NAV, SLF and STW Sub-Committees, a high-priority item on "Safety provisions applicable to tenders operating from passenger ships", with three sessions needed to complete the item, assigning the DE Sub-Committee as the coordinator.
24.6 In considering document FP 54/24/3 (Secretariat), on the outcome of DE 53 on this issue, the Sub-Committee noted that DE 53 had:

.1 established a drafting group to prepare consolidated draft Guidelines for passenger ship tenders, on the basis of documents DE 53/14 (CLIA) and DE 53/14/1 (United Kingdom), and to prepare a draft list of other matters to be addressed by DE 54;

.2 agreed that the Guidelines should represent a level of international best practice, but should not include the requirements of the individual coastal States that might otherwise be applicable, and to include a relevant statement in the preamble text of the Guidelines to this effect;

.3 agreed that, since "tendering" is deemed limited to the transfer of passengers from a passenger ship to shore and back, the provisions of the LSA Code provided an acceptable level of safety for tender operations; and

.4 noted the view of the group that fuel used in propulsion systems in lifeboats is required to have a flashpoint of more than 43°C (LSA Code, paragraph 4.4.6.1), while fuel used in propulsion systems for SOLAS passenger ships is required to have a flashpoint of more than 60°C (SOLAS regulation II-2/4.2.1), and that the group had agreed to include a provision for fuels used on tenders under the heading of propulsion and manoeuvrability in section 3 of the draft Guidelines, but was not able to determine whether to use either lifeboat or passenger ship flashpoint requirements. Consequently, the DE Sub-Committee agreed to refer the matter to FP 54 for comments (refer to paragraph 8 of document DE 53/WP.3),

and, bearing in mind that this item will be included in the agenda for FP 55, agreed to invite Member Governments and international organizations to submit comments and proposals to FP 55, taking into account the outcome of DE 54.

Test laboratories recognized by the Administrations

24.7 The Secretariat informed the Sub-Committee that the latest annual FP circular on Test laboratories recognized by the Administrations had been published as FP.1/Circ.39 on 8 January 2010.
Halon banking and reception facilities

24.8 The Sub-Committee noted information provided by the Secretariat that the latest annual FP circular on Halon banking and reception facilities had been published as FP.1/Circ.40 on 8 January 2010.

25 ACTION REQUESTED OF THE COMMITTEE

25.1 The Maritime Safety Committee, at its eighty-seventh session, is invited to:

[to be prepared in consultation with the Chairman after the meeting]

25.2 The Maritime Safety Committee, at its eighty-eighth session, is invited to:

[to be prepared in consultation with the Chairman after the meeting]

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ANNEXES

[To be prepared by the Secretariat after the session]

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ANNEX ...

DRAFT MSC RESOLUTION

ADOPTION OF AMENDMENTS TO THE GUIDELINES FOR THE APPLICATION OF PLASTIC PIPES ON SHIPS (RESOLUTION A.753(18))

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO resolution MSC.61(67), by which it adopted the International Code for Application of Fire Test Procedures (FTP Code) for the testing of new marine materials which are increasingly being introduced into the design and construction of ships and craft engaged in international maritime transport,

RECALLING FURTHER resolution A.753(18), by which the Assembly, at its eighteenth session, adopted Guidelines for the application of plastic pipes on ships to assist maritime Administrations to determine, in a rational and uniform manner, the permitted applications of such materials,

NOTING that part 2 of the FTP Code makes reference to resolution A.753(18) for the testing of materials for smoke and toxic hazards,

RECOGNIZING that the continual development of plastic materials for use on ships and improvement of marine safety standards since the adoption of resolution A.753(18) necessitated the revision of the provisions of the Guidelines for the application of plastic pipes on ships in order to take into account technological developments and maintain the highest practical level of safety,

NOTING FURTHER that the Assembly requested the Committee to keep the Guidelines under review and amend them as necessary,

HAVING CONSIDERED, at its [eighty-eighth] session, amendments to the Guidelines for the application of plastic pipes on ships, proposed by the Sub-Committee on Fire Protection at its fifty-fourth session,

1. ADOPTS amendments to the Guidelines for the application of plastic pipes on ships (resolution A.753(18)), the text of which is set out in the Annex to the present resolution;

2. INVITES Governments to apply the annexed amendments when considering the use of plastic piping on board ships flying the flag of their State.

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ANNEX ...

DRAFT MSC CIRCULAR

GUIDELINES FOR THE DESIGN, CONSTRUCTION AND TESTING OF FIXED HYDROCARBON GAS DETECTION SYSTEMS

1 The Committee, at its [eighty-seventh session (12 to 21 May 2010)], having noted the amendments to SOLAS regulation II-2/4, adopted by resolution MSC.[...](...), and to chapter 16 of the FSS Code, adopted by resolution MSC.[...](...), approved Guidelines for the design, construction and testing of fixed hydrocarbon gas detection systems, as set out in the annex, proposed by the Sub-Committee on Fire Protection, at its fifty-fourth session.

2 Member Governments are invited to apply the annexed Guidelines when approving fixed hydrocarbon gas detection systems in accordance with paragraph 5.7.3 of SOLAS regulation II-2/4 and chapter 16 of the FSS Code, and bring them to the attention of ship designers, shipowners, equipment manufacturers, test laboratories and other parties concerned.