Marine Safety and Environmental Protection

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Active Projects

Last revised: May 6, 2004 (Topics updated; removed to Auxiliary Issues)

Previous revisions: **February 12, 2004** ***(Most topics updated)*** **October 10, 2003** ***(Updated meeting schedules)*** **May 5, 2003** ***(Complete revision of activities page; to make user friendly & added customer form)***	**DOWNLOAD PDF (85KB) COPY OF THIS PAGE**

SOLAS Working Group Meetings Scheduled

The Coast Guard serves as head of the U.S. delegations to several IMO commitees and sub-committees, who meet periodically in London. Prior to the IMO meetings, the Coast Guard holds several "SOLAS working group" meetings that are open to SNAME members and interested parties in order to develop U.S. positions on the agenda items. Below are listed the next sub-committee and working group meeting dates.

SLF 47: September 13-17, 2004
Working Group Meeting: June 14, 2004
U.S. Coast Guard Headquarters, Room 6319 Meeting Agenda
Contact - jperson@comdt.uscg.mil
SLF 47 Agenda, Working Group Information, and Annotated Agenda
Report from SLF 46 and SLF 46 papers
Report from SLF 45 and SLF 45 papers
Report from SLF 44 and SLF 44 papers
Report from SLF 43 and SLF 43 papers
Report from SLF 42 and SLF 42 papers
Report from SLF 41

DE 47: February 25 - March 5, 2004 Working Group Meeting: February 3, 2004 U.S. Coast Guard HQTRs, Room 6319 Contact - wlundy@comdt.uscg.mil Please refer to the Agenda for DE 47 DE 46 Report to MSC DE 45 Report to MSC	**BLG 9:** 2005 Working Group Meeting: *to be announced* U.S. Coast Guard Headquarters Contact - rhennessey@comdt.uscg.mil Please refer to the Agenda for BLG 9 BLG 8 Report to MEPC BLG 7 Report to MEPC

Panel/Regional/Sub-Panel Meetings

Panel: Contacts - HCojeen@comdt.uscg.mil or JSirkar@comdt.uscg.mil

Regional:

Sub-Panels:
Ad Hoc Panel #8 Safety of Passenger Ships
Ad Hoc Panel #11 Evaluation of Accidental Oil Spills from Bunker Tanks
Ad Hoc Panel #12 on Fishing Vessel Operations and Safety
Ad Hoc Panel #13 Investigation of Head-Sea Parametric Rolling and Resulting Vessel and Cargo Securing Loads

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Active Projects

Harmonization of Damage Stability Provisions in SOLAS Chapter II-1

The IMO Sub-Committee on Stability and Load Lines and on Fishing Vessels Safety (SLF) is harmonizing the existing cargo ship and passenger ship subdivision and damage stability provisions in SOLAS Chapter II-1. The goal is to develop a unified probabilistic regulation for both cargo and passenger ships that provides a level of survivability equivalent to that found in current SOLAS Convention ships. *The target completion date for this work is September 2004 at SLF 47.*

The new harmonized regulations being developed are based on the widely accepted and modern probabilistic cargo ship regulations (SOLAS Chapter II-1, Part B-1). A probabilistic standard aligns the placement of a ship's subdivision with the probable locations of collision, resulting in improved survivability and optimized construction costs. The U.S. approach to the harmonization effort has been subject to intense technical debates for many years. These debates have resulted in a strong - technically sound U.S. position to require a minimum 2 compartment deterministic survivability standard for high-capacity passenger ships (carrying more than 400 persons). This minimum requirement or "floor" as it has been termed, was proposed and incorporated into the new draft regulations by the Subdivision and Damage Stability (SDS) Working Group at SLF 42 (February 1999).

In support of the SLF harmonization effort, a 3-year European Community funded research project entitled "Harmonization of Rules and Design Rationale" (HARDER) was conducted from 2000 to 2003. The HARDER project systematically investigated the validity, robustness, consistency and impact of harmonized probabilistic damage stability regulations on the survivability of existing ships and on the design of new ship concepts for various types of cargo and passenger ships. The Maritime Safety Committee (MSC), in recognizing the value of this research, instructed SLF to consider the results from the HARDER project.

At SLF 45 (July 2002), the proposals from the HARDER project regarding the damage distributions and the survival factor "s" were generally agreed to, with minor modifications, as the basis for the formulations of the draft SOLAS Chapter II-1. Sufficient agreement and progress was made to proceed with the critical sample ship calculations for establishing the required subdivision index "R" during the intersessional period prior to SLF 46. The issues of minor damage, watertight integrity, transient flooding, sample ship calculations, double bottom requirements and collision bulkheads were also discussed in the SDS Working Group.

At SLF 46 (September 2003), the sample ship calculation results together with the HARDER project's final recommendations were reviewed in detail. It was agreed to accept the majority of the HARDER proposals for the damage distribution and survivability formulations, subject to further validation of specific items (the p-factor, SEM

/ alternate water-on-deck factors, transient and intermediate stages of flooding and equalization, minimum values of "A" at specific draughts, and passenger ship heeling moments). The majority of the S/C was of the opinion that there should be a single required subdivision index "R" for all dry cargo ship types. As this would significantly raise the survivability standard for new ro-ro cargo ships, which is beyond the mandate to maintain an equivalent safety level, the S/C requested further guidance from the MSC on this matter. Regarding the general principles for establishing the required subdivision index for passenger ships, the majority of the S/C agreed that the downward trend of survivability for larger passenger ships as reflected in the current sample ship calculation results is not acceptable. The majority of the S/C believed that the survivability trend should be upwards for larger ships and for ships with greater numbers of passengers. As this does not conform to the mandate to maintain an equivalent safety level as in existing SOLAS, the S/C also requested further guidance from the MSC on this matter. The SDS Intersessional Correspondence Group was re-established, co-chaired by Sweden and the United States, to validate / finalize the damage stability calculation formulas and re-run the sample ship calculations to establish the required subdivision index "R", and to complete the draft revised SOLAS Chapter II-1. The harmonization work is to be concluded at SLF 47 in September 2004.

For detailed information visit the SDS Correspondence Group's website at
www.sname.org/committees/tech_ops/O44/sdsiscg/home.html

Contact - Jim Person or Bill Peters

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Large Passenger Ship Safety

At SLF 46, the S/C discussed the status of work regarding the assessment of the time to flood (to characterize the survivability of existing large passenger ships), and the structural integrity of the ship after damage. Further work on this matter is being accomplished intersessionally through contributions by Italy, Japan, Germany, Finland, the Netherlands and the United States to a framework of coordinated and defined tasks under the terms of reference to the correspondence group (a splinter group within the SDS ISCG). The work is directed into two categories: (1) time-domain flooding (referred to as **Time-to-Flood**) analyses, and (2) structural survivability after flooding.

Further details about the framework projects, including work descriptions and draft reports can be accessed at:
http://www.sname.org/committees/tech_ops/O44/sdsiscg/47/framework.rtf.

Within the time-domain flooding framework, the projects that involve computer simulation and model testing are underway. Progress reports to SLF 47 are anticipated. The work in computer simulations will provide further insight to actual flooding survivability when compared with traditional naval architectural assumptions of watertight/weathertight integrity and to the influence of different arrangements of semi-watertight spaces on survivability. Model tests can provide information about the influence of watertight and semi-watertight compartments on the bulkhead deck on flooding survivability.

An additional Ship Structure Committee sponsored study on structural survivability is underway, which will extend the work presented in SLF 46/INF.12. Effects that reduce the load-carrying capacity of the hull girder after damage, such as horizontal bending and shear forces in addition to vertical bending, are to be quantified both in the upright and heeled conditions.

More information is available under the LPS section of the SDS website at:
http://www.sname.org/committees/tech_ops/O44/sdsiscg/LPSwork.html.

SNAME Ad Hoc Panel #8, ***Safety of Passenger Ships***, which was formed under the SNAME T&R Steering Committee in 1999 (before the issue was taken up by the MSC in 2001), has been revitalized with renewed interest due to the active consideration given to this subject by the IMO. Information concerning the panel is located on the Panel's website at: http://www.SNAME.org/committees/tech_ops/O44/passenger/home.html.

Contact - Bill Peters at wpeters@comdt.uscg.mil

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Review of the Intact Stability Code

The IMO Sub-Committee on Stability and Load Lines and on Fishing Vessels Safety (SLF) established a Working Group on Revision of the Intact Stability Code (***IS Code***) at its 45th session under the chair of Professor Alberto Francescutto of the University of Trieste. The terms of reference (TOR) of the working group was to develop a two-way approach that (a) would allow the completion of some priority tasks by 2004 and (b) a plan to re-develop the Code according to a performance standards approach. The ***IS Code*** was first published in 1995 and subsequently amended in 1999.

At SLF 46, the task of making certain IS criteria mandatory was discussed and agreed upon as a worthwhile next step in the revision of the Code. It was determined that any decisions on mandatory sections of the Code would be beyond the mandate of SLF. Germany volunteered to submit a paper to the MSC (MSC 78/24/1) requesting that this task be added to the SLF work-plan.

As they become available, the reference papers for SLF 47 will be made accessible for downloading under the heading "SOLAS Working Group Scheduled" above by clicking on the "SLF 47 Agenda, Working Group Information, and Annotated Agenda " link and scrolling down to Agenda Item 6. To obtain copies of those papers that cannot be downloaded, please contact Bill Peters.

At both SLF 45 and 46, an Intersessional Correspondence Group on Intact Stability (**IS ISCG**) was established under the coordination of Mr. Christian Mains of Germany. Mr. Mains has established a web-site containing information about the work of the group including the existing ***IS Code*** and amendments, papers and other publications, and the work schedule of the IS ISCG. Any contributions to or comments on the ISCG's work are welcome.

A questionnaire was circulated to the IS ISCG earlier this year. Following the collection of the group's input the questionnaire results were forwarded to the group and are available on the IS ISCG website. An Informal meeting to the IS ISCG was held in Trieste in February, 2004. The report from the meeting should become available in mid-May.

At the 6th International Stability Workshop in October 2002, Prof. Francescutto presented a paper that provides a good summary of the progress of the revision of the Intact Stability Code, time needed for change, difficulties with new proposals and chances of success.

One of the topics being addressed is parametric rolling. SNAME Ad Hoc Panel #13 ***Investigation of Head-Sea Parametric Rolling and Resulting Vessel and Cargo Securing Loads*** was formed to consider this important issue. The key objectives of the panel are to better identify sea and vessel characteristics that initiate this coupling of pitch and extreme rolling based on current data and to propose operational guidelines and navigational procedures for vessels to avoid the effects of the phenomenon. Those interested in this subject should contact the Panel's Chair, Mr. William N. France.

More information is available at the IS ISCG website: http://www.gl-group.com/slf-iscg/index.html.

Contact - Bill Peters at wpeters@comdt.uscg.mil

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Environmental Protection Matters

Protection of Fuel Tanks - Bunker oil spills have been attracting increasing public and industry attention due to a series of recent collision and grounding casualties in environmentally sensitive areas. IMO is considering this matter under the Ship Design and Equipment (DE) Sub-Committee.

This topic was considered at DE 47. The Intersessional Correspondence Group (ISCG), established under the co-ordination of Germany, was instructed to:

1. develop a draft MARPOL regulation on the protection of fuel tanks, taking into account documents DE 47/6, DE 47/6/1, DE 47/6/2, DE 47/6/3, DE 47/6/4, DE 47/WP.3, DE 46/29, BLG 7/INF.6, DE 46/INF.4 and MEPC 49/16/6; and
2. give special consideration to the following issues:
    - application to new ships only;
    - application to smaller ships;
    - use of tank capacity as a criteria;
    - application to heavy fuel oil; and
    - use of the probabilistic outflow method.

The papers listed above are available on the Ad Hoc panel's webi-site through the link provided below. The target completion date is 2005 at DE 48.

SNAME Ad Hoc Panel #11 ***Evaluation of Accidental Oil Spills from Bunker Tanks*** was formed to consider this important issue. Their Interim Report was submitted to DE 46 as an information paper (DE 46/INF.4 referenced above) by Ad Hoc Panel member INTERTANKO (which has NGO status at IMO). Additional information can be found on the panel's web-site: http://www.sname.org/committees/tech_ops/bunkertank/home.html.

Contacts - Arthur Haskell or Jim Person

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Tanker Issues

SNAME Ad Hoc Panel #6 "Structural Design and Response in Collision and Grounding" - The Ship Structure Committee (SSC) has funded one project of this multi-part panel. Thus far, the SSC portion of this panel will investigate methods designed for modeling structural damage in collision. Of particular interest is the issue to assess and integrate existing simplified collision-damage models and mechanisms to predict probabilistic collision damage extents given a probabilistic description of collision scenarios.

Those interested in this subject should contact the Panel's Chair, Mr. Alan Brown.

You may visit their website at: http://www.sname.org/committees/tech_ops/O44/crashworthy/charter.html

Copy of the SSC Statement of Work

Contacts - SSC Exec Director (ecooper@comdt.uscg.mil) or SSC PTC chair (hcojeen@comdt.uscg.mil)

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Application of IMO requirements to F(P)SOs and FSUs

How MARPOL, SOLAS and Load Line requirements apply to floating production, storage and offloading systems (FPSOs) and floating oil storage units (FSUs) has been an ongoing topic of discussion at IMO. The Marine Environment Protection Committee (MEPC) is considering this issue for MARPOL requirements and has put this item on the Bulk Liquids and Gases (BLG) Sub-Committee's work program. The Maritime Safety Committee (MSC) is considering this issue for SOLAS and Load Line requirements.

- *BLG Status:* At BLG 6 (February 2001), the matter was discussed without any real progress. Australia volunteered to submit a paper to BLG 7 with a proposal on what MARPOL regulations and interpretations should/should not apply to FPSOs and FSUs. This paper (BLG 7/8/1) is available upon request. (Summary from BLG 6/16 Report to MEPC) At BLG 7 (June 2002), a drafting group using BLG 7/8/1 as a base document began drafting Guidelines on Application of MARPOL Annex I requirements to FPSOs and FSUs. The task was not completed and a correspondence group was established, chaired by Australia, to finalize the Guidelines and related MEPC circular. (the summary from the BLG 7 Report to MEPC begins on page 31 of BLG 7/15) This matter will be further considered at BLG 8 (to be held March 24-28, 2003). The correspondence group report, BLG 8/8, provides the draft MEPC circular (Guidelines on Application of MARPOL Annex I requirements to FPSOs and FSUs) and related information.
- *MSC Status:* At MSC 74 (June 2001), the Committee considered document MSC 74/21/4 (Australia) proposing that the Organization should develop unified international requirements for the design, construction, survey and operation of FPSOs and FSUs. Having noted that BLG is working on the application of MARPOL requirements to FPSOs and FSUs, the Committee agreed to refer the document to BLG 7 for consideration and development of a structured work plan so that MSC 76 can decide on how to proceed with the matter. BLG 7 considered the matter and agreed that, at this time, application of other mandatory IMO instruments to address safety-related issues for FPSOs and FSUs was not necessary. Consequently, BLG 7, having agreed that a structured plan to develop appropriate safety guidelines for FPSOs and FSUs, as requested by MSC 74, was no longer necessary, invited the MSC to consider this advice and take action as appropriate. At MSC 76 (December 2-13, 2002), the Committee noted BLG's view and decided to take no further action on safety-related issues for FPSOs and FSUs, taking into account the views expressed in plenary that the existing safety regime was adequate.
- The International Association of Oil and Gas Producers (OGP) has submitted an information paper, BLG 7/INF.8, providing a compilation of FPSOs and FSUs currently deployed in the offshore oil sector worldwide. This listing provides information on unit type, build, coastal state, storage capacity, flag state, class society, propulsion, mooring, regulatory scheme, etc.

This issue was finalized through the publication of MEPC circ./406. This document is available at: http://www.sname.org/committees/tech_ops/O44/msccircs.html

Contacts - LCDR John Cushing or Jim Person

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Review of the IMO Guidelines for the Design and Construction of Offshore Supply Vessels (OSV Guidelines)

At MSC 75 (May 2002), Australia proposed in MSC 75/22/2 that the *Guidelines for the Design and Construction of Offshore Supply Vessels* (A.469(XII)) be reviewed and made mandatory under the 1974 SOLAS Convention either in the form of a Code or by directly incorporating into the Convention the technical provisions of the Guidelines as well as the survey and certification requirements. The reason behind the proposal was that the Guidelines had been adopted in 1981 and were based on the requirements of the Convention as amended in that year, while a number of amendments to SOLAS and other IMO instruments (such as the Intact Stability Code) had since been adopted which might affect the Guidelines. Following discussion, in the course of which it was agreed that the Guidelines should not be made mandatory, the Committee decided to include, in the work programs of the FP, COMSAR, NAV, DE

(co-ordinator) and SLF Sub-Committees, a high priority item on Review of the OSV Guidelines.

At SLF 46 (September 2003), the Sub-Committee referred the “Intact stability” portion of the Guidelines to the Intact Stability Correspondence Group, under the coordination of Germany. The Sub-Committee agreed that, in the short term, the subdivision and damage stability portion of the Guidelines remain deterministic in nature and be updated to reflect current requirements. For the longer term, the possibility of using probabilistic methods should be explored, if it is established that there is sufficient statistical data to develop appropriate probabilistic provisions. This item is on the provisional agenda for SLF 47 (September 13-17, 2004).

In preparation for SLF 47, the U.S. approach will be to determine if the intact stability standards currently in the OSV Guidelines can be fully aligned with other existing IMO instruments (i.e. Intact Stability Code, SOLAS Chapter II-1, etc.), or if they must be updated as a unique stability standard in the Guidelines. Additionally, the OSV Guidelines are referred to by the *Guidelines for the Transport and Handling of Limited Amounts of Hazardous and Noxious Liquid Substance in Bulk on Offshore Support Vessels* (A.673(16)), which were intended to permit limited quantities of such substances be transported on offshore support vessels. Therefore Resolution A.673(16) shall be taken into account in the course of this review.

Contacts - LT Eric Cooper or Jim Person

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Fishing Vessel Safety (Guidelines, Ad Hoc Panel, etc.)

Ad Hoc Panel #12 on Fishing Vessel Operations and Safety is one of the ad hoc panels formed under the T&R Steering Committee banner. The key element for SNAME is the development and pursuit of awareness efforts, working with other like-minded organizations, to affect a major shift to a safety culture within the U.S. and international commercial fishing fleets. Previous ad hoc panels have used the world wide web to provide accurate and timely technical assessments of critical issues. Similarly, Ad Hoc Panel #12 is using the web to disseminate pertinent materials. For more information, we invite you to examine the above link or join panel’s Intranet. Any comments relevant to the Panel's activities are welcomed.

Contacts - John Womack or Professor Bruce Johnson

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