

THE F-25 STANDARD



ASTM COMMITTEE F25 ON
SHIPS AND MARINE
TECHNOLOGY

PRESENTS

GOVERNMENT
ACQUISITION REFORM
and the
MARINE INDUSTRY

FROM THE CHAIRMAN

In only four or five weeks from the date that this newsletter is published, we'll be saying "goodbye 1999" and "hello 2000". All of the members of F25 Committee on Ships and Marine Technology have been concerned with Y2K and many of us have been directly involved in the planning and preparations to avoid or minimize the potential problems and dangers that have been forecast for New Year's Eve, 2000. For those of you reading these words, it is either a matter of only a few days to the dawn of the New Year or the clock has already struck midnight on New Years Eve and you now know what and where the problems are, and how effective the planning has been. It will be evident then, where and what the remaining information system problems are and we can expect that this unique crisis will never occur again.

Coincident with all of the concern expressed regarding the Y2K problems, I have seen only a few comments and discussions relating to organizational objectives and goals to be stressed as we move forward to the new millennium. This is the time for New Year's Resolutions, so let me describe several of the objectives that I believe F25 Committee on Ships and Marine Technology, our various technical and administrative subcommittees, and all of our members, should be working to accomplish during the Year 2000 and beyond.

We need to work to increase the F25 membership and particularly to bring in stronger presence from those segments of the marine industry that have limited and in some cases no representation within the membership of F25. Several large shipbuilders have been and are strong supporters.

We have little or no representation, however, from the small shipyards who I believe could realize long term benefits from a

As part of its tradition of presenting timely and first quality seminars on topics of major interest to the marine community, ASTM F25, in conjunction with the ASTM December meeting is pleased to host a seminar dealing with government acquisition reform on December 8th from 9:00 a.m. to 4:30 p.m. at the Hyatt Regency Superdome – New Orleans, Louisiana.

The goal of the seminar is to promote a better understanding of Acquisition Reform Issues as they affect the marine industry. The discussions are intended to address U.S. Navy, U.S. Coast Guard, and Classification Society initiatives and industry's assessment of the programs.

The seminar, consisting of many speakers and a discussion panel, will cover many different items facing the international maritime community with regard to acquisition reform.

The Keynote speaker is RADM Paul Pluta, USCG, Commander, Eighth Coast Guard District. Other speakers include: (1) Mr. Gregg Hagedorn, the Executive Director for Engineering, NAVSEA on the Navy's Acquisition Reform Program, (2) Capt. Craig Schnappinger, USCG, Program Manager on the Deepwater Project (which is part of the National Reinvention Library), (3) a senior panel of Classification Societies, and USCG representatives on the "Alternate Compliance" Program (moderated by VADM A.E. Henn, USCG (Ret)), (4) Mr. Ron McAlear on the "Impact of Acquisition Reform on Navy's Sealift Program – an Industry Perspective" and (5) Mr. Glenn Ashe, ABS, on the ABS project for developing a "Book of Rules for Building and Classing Naval Vessels."

For further information and registration information contact Robyn Zelno at 610/832-9717 or email: rzelno@astm.org.

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FROM THE CHAIRMAN Continued

Mutually developed consensus standardization program. Guy Hardwick and Bart Walsh have arranged a paper and a presentation for the December, 99 Workboat Show in New Orleans, with the goal of creating a greater understanding of National and International Marine Standards, and an active interest in F25 membership. They are to be commended for this voluntary effort. Charlie Piersall, who is Chairman of the ISO/TC8 Committee and also the US TAG, is attending the Workboat Show to provide standards literature and assistance. We also need more ship owner and operator participation. They are the "Buyers" and without their acceptance of the standards the full benefits may not be realized.

On F25 we do have a strong base of "Producers" who provide much of the technical input for the technical subcommittees; however, there are still manufacturers of marine equipment who are not represented within our current membership. A wider dissemination of information and a greater understanding of the objectives and benefits of F25 participation would further increase our membership within this segment of the marine industrial base. Our members and our subcommittees are often in position to communicate with many of these nonparticipation people and organizations. On these occasions, an emphasis on F25 membership, benefits, and objectives could be the catalyst that increases F35 membership and initiates meaningful standards writing activities that could benefit themselves and the marine industry.

What about the standards we write and maintain? More than ever, the new millennium will require that U.S. Standards be a quality product. There must be a real need for them within the marine industry, and they must be safe to use and apply. When we look at the International Marine markets, we should understand and consider that the standards that are produced World Class US National Standards, and to the extent possible, that they complement the equivalent International Standards or provide technical base for new International Standards.

There are, no doubt, many more standardization issues that you, our F25 members, or the users of ASTM Marine Standards, could address. We invite you to make a New Year's Resolution to bring these issues and ideas to our committee where we are committed to the continuing development of World Class Consensus Standards for the US Marine Industry.

Happy Y2K,

Hal Greiner

MEET ASTM F25'S NEW STAFF MANAGER, ROBYN ZELNO

Robyn Zelno has recently been named Staff Manager for ASTM Committee F25, replacing Cathryna Blackwell. Robyn has been with ASTM for about a year. Her other committees include E21, F20, E35, F12, F33, and F15. She also performs as Secretariat of ISO TC 61 on Plastics, Subcommittees 9 and 23. Robyn came to ASTM from a former career in municipal management. She has a Bachelor's Degree from Franklin & Marshall and a Masters in Public Administration from Villanova University.

Robyn hails from a small town near Scranton, Pennsylvania. She was recently married and in her spare time enjoys going to auctions and flea markets and dining out.

We welcome Robyn to the F25 family.

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FROM THE SUBCOMMITTEES

SUBCOMMITTEE F25.02, INSULATION

ASTM Standards Traceable to Military Specifications and Standards - F683 is in Main Committee balloting now to approve the US Navy Annex. However, several reviewers have been critical about the continued appearance of Military Specifications and Standards in the annex.

F25.02 has developed a strategy for handling these documents in the transition period. This rationale is repeated below for the convenience of the reviewers and as an aid to expediting the balloting of F683. F25.02 is the cognizant subcommittee for changes to ASTM F683, "Standard Practice for Selection and Application of Thermal Insulation for Piping and Machinery". It is a commercial insulation specification that is closely linked to US Navy ship insulation practices. Many US Navy insulation specifications are currently referenced in F683 and several of these are being converted in various Committees such as C-16. As these ASTM document conversions are completed, the number of military documents will diminish and be replaced by ASTM Standards. However, during the transition process the ASTM standards cannot be used until final approvals are balloted. The MS769 consists of tabular information relating different insulation materials and insulation thickness requirements for various size piping and machinery components over broad temperature ranges. Because of the compact arrangements of combatant ships piping and machinery, items are in very close proximity and it is common practice for sailors to climb up, over and between piping to perform maintenance and repair of the many subsystems. To accommodate this practice, the outer surface of the insulation must be cool enough to touch safely without causing burn hazards. US Navy insulation systems are designed so that tactile surface temperatures do not exceed 125°F for process temperatures to 650°F and 133°F tactile surface temperature for process temperatures greater than 650°F. In addition, Navy insulation materials must be durable enough to support the weight of sailors as they step on and climb over insulation lagging. These special criteria of Navy systems are quite different than conditions found in larger commercial ships where insulation components have more space for conflict-free arrangement. Also, commercial vessel insulation systems are designed based on the economic efficiency of the machinery and piping systems

There are differences in insulation preferences also between Navy and commercial ship design. Insulation materials may be hard, such as calcium silicate preformed pipe insulation or soft such as preformed fibrous glass. On US Navy ships the more dense and hard calcium silicate is preferred because of its durability. When properly lagged, the insulation material will support the weight of ships' personnel as they stand and climb over insulated pipes. However there is a weight penalty for this which cost conscious commercial ship operators are reluctant to pay. Commercial ship designers prefer the lighter weight, fibrous glass and perlite insulations, which are less abuse resistant. In the larger machinery spaces of commercial ships these are good choices because abuse resistance is not a primary concern.

DoD requirements for technical products are heavily skewed toward MIL Specs and Stds. In the past MIL Specs were used exclusively although current requirements involve using more ASTM and other commercial specifications. In recent years, additional efforts have been initiated at various ASTM Committees to convert MIL Specs to ASTM standards.

Since MS769 consists of many basic insulation specifications, converting it or incorporating it into an ASTM standard would be a significant achievement. As important as this step is to implementing PL 104-113 to use commercial in lieu of military standards, the premature disappearance of MS769 would likely cause chaos at shipyards and repair facilities. Considering these facts it would seem that a planned transition of MS769 into F683 would benefit all concerned as explained below.

At this time, the plan for merging MS769 into F683 is to simply expand the U.S. Navy Annex portion of F683. This will allow major recognizable portions of MS769 to exist temporarily in the ASTM Standard for the benefit of the US Navy with shipyards and repair facilities during new construction, maintenance and repair. The majority of F683 as it exists now would not be changed for the time being.

Once the new Annex is established and can be referenced, MS769 can be dropped from the official documentation records and the remainder of the MIL Spec to ASTM specification conversion process can begin. Eventually the main portions of F683 will absorb the Annex and all the MIL Specs will finally be replaced.

SUBCOMMITTEE F25.07 GENERAL REQUIREMENTS

Standard Guide Listing Relevant Standards and Publications for Commercial Shipbuilding (ASTM F1547-99)

Under the ASTM General Requirements Subcommittee, F25.07, the Standard Guide Listing Relevant Standards and Publications for Commercial Shipbuilding, ASTM F 1547-99, has been updated and has recently been published by ASTM (1999). This updated guide is a compendium of relevant publications, standards, and other information related to commercial shipbuilding. The guide has been developed and updated to aid naval architects, ship designers, material and equipment suppliers, buyers, ship owners and operators, and government agencies by providing pertinent information in one document that can be used during various stages of commercial shipbuilding. A partial list of sources for obtaining various standards is also included in the guide. In addition, the guide provides other sources for obtaining relevant shipbuilding information. The document will continue to be updated in the future to reflect the latest shipbuilding information.

FEATURED SUBCOMMITTEE F25.11 - MACHINERY

Comments from the new Chairman, George Ponton, featuring a retrospective of the work done by one of the original F25 subcommittees and its role in the future.

Upon taking over this Subcommittee, the obvious question struck me - what happened to all of the task groups? Task groups were established for each type of machinery for which specifications or standards were being prepared. While the task groups numbered twelve, only four were active. I wanted to know about the other eight. Thanks to Adm. Tom Hopkins, I learned the names of the "lost" eight, since he retrieved some old meeting minutes from his extensive archives.

Task group (01) on diesels did develop a standard for medium speed diesels: F1338. That task group is now dormant and lacking a potential leader. The second and third task groups went the way of steam ships. Main Turbines (02) and Boilers (03) were no

longer needed since fossil fueled steam powered ships were not being built.

Centrifugal pumps (04) is an active task group currently preparing a major rewrite of specification F998. This group's leader is John Mullen and he would welcome additional participants. Task group (05) on shaft alignment was disbanded years ago. A draft procedural alignment guide was started, but never completed. Task group (06) on auxiliary turbines created ASTM F975. That task group and its specification will also go the way of steam ships. HVAC was task group (07), which prepared several standards for components of ventilation systems. That group has dissolved and those standards have reverted to the machinery subcommittee, which does not have an active HVAC task group leader.

Similarly, the task group on pollution (08) became a separate subcommittee F25.06 Marine Environmental Protection which has been preparing various specifications and standards having to do with control and disposal of ship generated wastes.

The heat exchanger task group (09) has been dormant for years, but is now going to be revived to prepare standards and specifications for heaters and coolers. This group will need volunteers to prepare and process proposed documents.

Positive Displacement Pumps, task group (10) has been active preparing and revising two specification: F1510 and F1718. These documents are now available for incorporation into shipbuilding specifications for new construction programs.

Mechanical seals (11) has been the most active task group for years with excellent participation and attendance, frequent meetings and frequent changes and improvements to F1511. It is amazing how much interest and activity this subject incurs with lively exchanges during the meetings. Even if you know very little about mechanical shaft seals, you will never be bored at Harold Greiner's task group meetings.

The newest task group (12) is addressing centrifugal purifiers for fuel and lube oil and is still very small and needs additional participants and support.

So the status of the Machinery Subcommittee is five active task groups out of twelve, with 15 issued standards, two new standards in work and two standards being revised. The Machinery Subcommittee is established to develop standards and specifications for shipboard equipment such as: A/C Plants, Air Compressors, Controllable Pitch Propellers, Distilling Plants, High Speed Diesels, Oil/Water Separators, Reduction Gears, RO Plants, Waste Heat Boilers, as well as addressing the machinery items currently in work.

Any organization or activity (manufacturers, shipyards, NAVSEA, MARAD, MSC) is welcome to identify requirements for new standards and participate in development of new documents for marine machinery. Since there are not any Industry Standards for many pieces of equipment on Naval Ships, conversion of some military specifications to ASTM Standards has been successfully accomplished, with more candidate specifications available. Considering the strong possibility that these standards could become international standards, organizations with a global outlook should participate in development of standards for their products.

FROM AROUND THE INDUSTRY LLOYD'S REGISTER (LR) PUBLISHES PROVISIONAL RULES FOR THE CLASSIFICATION OF NAVAL SHIPS

As a leader amongst the major recognized international classification societies (IACS), Lloyd's Register has published Provisional Rules for the Classification of Naval Ships, available on CD ROM. These rules will be updated and formally published in January 2000.

These rules were developed over the past two years in cooperation with the UK Ministry of Defence, naval shipbuilders and the defence industry.

UK Defence Minister, John Spellar, acknowledged that the LR Naval Ship Rules will play a significant part of the MOD's Smart Procurement programme in reducing the costs of procuring and maintaining the Royal Navy's fleet. This will be achieved through the increased use of commercial standards and techniques where appropriate with an expected savings to be in excess of one million pounds (roughly 1.6 million US dollars).

A Naval Ship Technical Committee was formed to steer development of LR's Naval Rules. The inaugural meeting of this Committee was held on 6 October 1999 under the chairmanship of Vice Admiral Sir Robert Hill. Members of the Committee are from the UK Ministry of Defence, other worldwide government defense organizations (the U.S. Navy, the Royal Netherlands Navy, and the Australian Department of Defence are members), academia, the Defence Evaluation Research Agency, naval shipbuilders and equipment manufacturers.

The stated objective with the LR Rules for Naval Ships is to formulate rules which can be maintained and developed in step with advances in the merchant shipping rules. The Rules are available for design and construction of future vessels for the Royal Navy, including aircraft carriers, Type 45 destroyers, surface combatants and for overseas navies.

The Naval Ship Rules package will deliver the following:

Design

- Design procedures customized for each naval ship;
- Requirements for operation in intact and damaged conditions, within clearly defined sea areas with specific roles or unrestricted worldwide operations;
- Optional military notations reflecting performance capabilities for internal air blast, shock enhancement, whipping and fragmentation;

Construction

- Requirements to meet internationally recognized standards;
- Inspection during construction by security-cleared LR surveyors;

Maintenance (lifetime care)

- Planned maintenance and condition monitoring schemes that can be tailored to suit the operational requirements of individual navies;
- Periodic visits by LR surveyors to ensure compliance with LR's rules and to monitor hull and machinery condition;
- Regular development of the rules through a programme of R&D based on information from survey reports;

Software needs

- Simplifying the design or optimization processes;
- Speeding up the design approval and verification process.

It is noteworthy that several other major international classification societies have similar initiatives in various stages of development, such as ABS.

FROM AROUND THE INDUSTRY

Continued

U.S. COAST GUARD CUTTER CERTIFICATION PLAN (CCP) FOR THE DEEPWATER INITIATIVE

To date, 1026 standards have been identified for review. Of these, 550 are government standards. ABS is reviewing the government standards to see if there are commercial standards or class rules equivalents. The goal is to have the work completed by December 1999.

The U.S. Coast Guard has hired the American Bureau of Shipping (ABS) to produce for them a "Cutter Certification Plan (CCP)." This is a major effort to identify military and commercial standards that can and should be used for combatant as well as support naval vessels. The Vice Commandant and the President of ABS signed a memorandum of agreement (MOA) on 9 June 1999. The MOA commits the Coast Guard and ABS to work together to produce a CCP by 15 December 1999. The CCP is for the replacement of the existing cutters including a new National Defense Cutter (NDC), the High Endurance Cutter (HEC), the Medium Endurance Cutter (MEC), and Patrol Boats (PB).

The Cutter Certification Plan is to fill the void left by the inactivation or cancellation of government standards, ease the evaluation of numerous and non-qualified proposals and ensure that all parties' concerns with operational and in-service effectiveness as well as life cycle costs are shown.

The CCP is actually an evaluation matrix - a comprehensive collection of standards that cover design, construction and support of Deepwater surface assets. It is a certification matrix - identification of the organization or rule-making body that certifies compliance with the specified standards. The Coast Guard must specify how the technical documents will be submitted, reviewed and justifications for technical determinations. The Coast Guard must provide an implementation guide that defines the process for transitioning from generic matrix to a ship-specific matrix.

In order to maintain the CCP over the life of the Deepwater acquisition, the Coast Guard and ABS will develop a generic evaluation matrix and certifications matrix. Industry will tailor the evaluation matrix and certification matrix to suit specific ships to be built. This tailoring of the evaluation and certification matrix will begin during and continue through detail design.

While the Coast Guard and ABS intend to share the responsibility for developing the generic CCP, the Coast Guard is looking to industry for team participation in the generic CCP development and for specific CCP development. ABS will review existing standards identified by the Coast Guard and suggest alternatives to government standards and will administratively maintain the CCP over the life of the Coast Guard Deepwater acquisition, maintain historical files, and serve as certification agent for ABS rules cited in the CCP. The Coast Guard has documented suitable industry and government standards and ABS rules for the design, construction and life cycle support of the NDC/HEC/MEC and PBs. The Coast Guard will vet these standards with ABS, but maintain technical authority, acting as the honest broker.

There are three industry teams bidding on the Deepwater project. These teams can voluntarily participate in the development of the generic CCP, develop ship-specific CCP and, based on analysis, recommend if Deepwater vessels should be built or maintained to ABS Class. They may also provide input on ABS's role during construction, if any.

ASTM as part of the entire standards industry is invited to comment directly on the Deepwater Project - a 20 billion dollar initiative spread over ten years.