

Marine Machinery Association - Shipbuilders and Suppliers Working Together

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With the current U.S. economy still struggling to recover, cost-cutting measures in Naval shipbuilding are more important than ever. The challenge faced by the U.S. Navy in implementing a ship procurement strategy is a complex one. For the Navy, an optimal strategy has four objectives – multiple mission capability, sufficient naval presence, reduced manpower requirements, and a stable industrial base. While striking an equitable balance between these four objectives has proven difficult, there has been some success. However, concerns remain as shipbuilding programs continue to experience cost overruns and schedule delays. In a study from July 2008, the Government Accountability Office (GAO) concluded that significant cost growth coupled with schedule delays are problems that continue to compromise Navy shipbuilding goals. The study also indicated that cost problems in individual shipbuilding programs are eroding the buying power of the Navy's long-range construction budget. Without a solution, only significant funding increases or elimination of programs will be able to halt cost overruns. Neither of these measures would allow the Navy to improve mission capability or presence. They could also negatively impact the industrial base. To curb these budget issues, hard choices are being considered to meet objectives while reducing the budget requirement to a strictly essential level.

Unfortunately, our security concerns have not decreased as evidenced by the recent pirate hijacking of the American cargo vessel Maersk Alabama off the coast of Somalia. A quick-thinking crew and a speedy response by the U.S. Navy provided a positive resolution for this situation. However, a sudden escalation of piracy acts would require a stronger naval presence in the area to protect shipping interests. In addition to this concern, another area that is quickly becoming of interest is the Arctic region. As the melting of polar ice has created new shipping lanes, a race is underway by several different countries to explore and develop the mineral and fuel resources that abound in the area. Although most countries are gathering boundary data to support their claims for exploration rights, some countries, such as Russia, are increasing their military presence and threatening to block other countries from exploration. These are two different security situations at nearly opposing geographic locations which could escalate with little warning. Such dynamic security requirements can only be met with a force that is powerful and flexible. As a result, it is important for our Navy to be ready to respond to changing mission demands.

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Few argue against the need to maintain the current U.S. fleet while providing for future growth and expanded mission capabilities. However, budget concerns appear to be shifting much of the emphasis from building a future fleet to upgrading the present one. Unfortunately, rising costs associated with shipbuilding and maintenance continue to plague the government's efforts in both areas. The marine industry has long recognized the need to reduce those costs not only to help the military, but to stabilize the industrial base as well. Industry members have explored a variety of cost-cutting measures derived from lessons learned. Companies within the industry have collaborated on solutions and are working to establish relationships with government agencies to share the benefit of their experiences. In turn, government agencies have welcomed input from industry leaders and taken actions of their own. In recent remarks, clear-cut decisions were announced by the government which left little doubt that one way or another, the costs of maintaining and procuring a fleet would be reduced.

Budgetary Impacts to Fleet Mission Priorities

In early April of this year, the Honorable Robert M. Gates, Secretary of Defense (SecDef), addressed proposed changes to the upcoming Department of Defense (DOD) budget. Secretary Gates noted that addressing the public before a budget was submitted might be unusual. However, it was necessary because of “the scope and significance of the changes.” He noted that his budget recommendations would reshape the priorities of America’s defense establishment and reform how the DOD does business. He also firmly stressed that his recommendations were not strictly based on cost considerations but were reached after extensive consultation with military and civilian advisors. Despite these assurances, the proposed objectives are tough in some areas and represent major changes to the overall fleet procurement process.

At the start of his address, Secretary Gates identified three departmental priorities of caring for the needs of military personnel and their families, reorganizing departments to maximize the ability to meet current and future strategic challenges, and completely overhauling procurement, acquisition, and contract management processes. Accomplishing each of these objectives is vital to maintain a strong defense. However, without careful planning and preparation, these changes could result in significant impact to the shipbuilding industry.

Secretary Gates argued in his address that the current fleet provided a healthy margin for dominance at sea – enough so to slow production of some ships. This finding contrasts last year’s assessment by the Secretary of the Navy (SecNav) that mission requirements for both strategic and humanitarian roles justified the need for new ships and better equipment. It also illustrates the speed at which mission requirements can change. Nonetheless, Secretary Gates’

“At the heart of proactive measures to find practical solutions, Marine Machinery Association (MMA) has led efforts to resolve shipbuilding cost issues.”

recommendations were not made lightly. Also, no one disagrees it is still necessary to provide for a future fleet that would deter aggression, project power when necessary, and protect

American interests and allies around the world. Government officials and members of the marine industry have agreed that a full and open partnership between them is the only realistic answer to the issue of rising ship costs. At the heart of proactive measures to find practical solutions, the Marine Machinery Association (MMA) has led efforts to resolve shipbuilding cost issues.

MMA was formed in 1984 as a collaborative organization of hull, mechanical and electrical equipment manufacturers who supply components and equipment for Navy ships. Over the years, MMA has expanded to include all manufacturers of systems and products as well as services related to ships and shipbuilding. MMA has 44 member companies from all sectors of the marine industry.

Since its founding in 1984, MMA has hosted semi-annual public conferences on shipbuilding across the country. For the past several years, the focus has been on combating rising shipbuilding costs. MMA members fully understand the risks to the Navy and industry as well as the consequences of inaction. These concerns are shared by government agencies in the shipbuilding community who realize that security and infrastructure stability are at stake. Over the past few years, these government agencies have actively sought input and cooperation from organizations such as MMA to develop realistic solutions to the problem. These agencies have increased their presence at conferences such as those organized by MMA to inform industry members and to promote active cooperation. This year was no exception.

The Power of Partnership between the MMA and Government Shipbuilding Agencies

On April 14, 2009, MMA held its 24th Annual Spring Conference on shipbuilding, in Arlington, VA. The conference theme centered on controlling shipbuilder’s costs of hull, mechanical, and

electrical (HM&E) equipment and contained presentations from important representatives of the United States Navy, Naval Sea Systems Command (NAVSEA), and major shipyards such as Bath Iron Works (BIW). Several MMA member companies, including DRS Power and Control Technologies, Fairbanks Morse Engine, York International, Baldor-Reliance, and Jered LLC also presented information at the conference. Each presentation provided valuable information on current initiatives in progress and future steps needed to reduce rising costs of shipbuilding and ship maintenance.

MMA President, Gary Schettler of DRS Power and Control Technologies called the conference to order and discussed the current schedule of MMA meetings and conferences. He also highlighted a recent professional workshop on Navy shock requirements and described additional workshops to be held throughout the year. Mr. Schettler concluded his remarks by introducing the founder and chairman of MMA, Mr. Jack Janetatos, for welcoming remarks.



MMA President
Gary Schettler
Photo by Jim Quade



MMA Chairman Jack Janetatos
Photo by Jim Quade

MMA Chairman Jack Janetatos welcomed conference attendees by citing an important function of MMA which is to facilitate communication among interested parties and do all possible to reduce the cost of products to shipyards and the Navy – something MMA has done for twenty-five years. Mr. Janetatos provided additional comments on the MMA professional workshops mentioned by Mr. Schettler. During his remarks, Mr. Janetatos noted that a major focus of this conference would be commonality of components across ship platforms and elimination of wasteful standards and specifications. Once again, he underscored the importance of developing and maintaining the partnership between marine industry members, particularly MMA, and government shipbuilding and repair

agencies. In closing, Mr. Janetatos emphasized that an advantage of membership in MMA is the wealth of opportunity for such partnerships between government and industry which to date have produced significant progress in the reduction of shipbuilding costs.

The first presenter of the conference was Vice Admiral Phillip M. Balisle, USN (Ret.). Currently the executive vice president of DRS Power and Control Technologies, VADM Balisle began his presentation by discussing the state of shipbuilding in our country. He firmly stated his belief that the U.S. Shipbuilding industry was not broken. Instead of a major industry overhaul, specific problems should be targeted and resolved as they are discovered. VADM Balisle cited cost problems highlighted by Secretary Gates' recent address and provided specific reasons for their lack of success. For example, VADM Balisle noted a low return on investment for the amount of money spent on the DDG 1000 program as a factor in the program's reduction. Two modifications in hull design and weight reduction contributed to the delays. In this case, the program had become a victim of changing operational requirements. While some of the innovative design changes were problematic, VADM Balisle indicated the new integrated propulsion system was a valuable contribution. He stated that budget considerations should not be focused strictly on shipbuilding costs, but also on life cycle costs. Only purchasing three DDG 1000 ships, as recommended by Secretary Gates, will most likely force an increase in the cost of life cycle maintenance.



VADM Phillip M. Balisle, USN (Ret.)
Photo by Jim Quade

In contrast, the Admiral praised the success to date of the Littoral Combat Ship (LCS) program. In this case, potential cost issues forced the government to think out of the box for innovations to make this platform affordable. In November of 2008, USS Freedom (LCS 1) was commissioned and entered into active service. A second LCS, the Independence (LCS 2) was christened in October of the same year. The Navy expects the ship to be delivered in the latter part of 2009. Secretary Gates stated in his address that the Navy would eventually acquire 55 of these ships. This new ship class is expected to play a critical role in future missions where it is less desirable to employ larger, multi-mission capable ships. In response to a question from the floor, VADM Balisle indicated the LCS platform would perform well in combat mission scenarios involving piracy attacks such as the one against Maersk Alabama. Implementation of processes such as modular system design and multiple mission capability have made the ship popular in the international market as well. He observed that technologies developed for the LCS program and DDG 1000 should be examined for potential applicability to future ship development. Incorporating this type of commonality into the shipbuilding process would create increased cost savings.

VADM Balisle discussed the merits and issues of other ship platforms, such as the Joint High Speed Vessel (JHSV), LPD amphibious ships, submarines, and aircraft carriers. For carriers, the Admiral stated the industry could “live with” Secretary Gates’ proposed shift from a 4-year construction cycle to 5 years. However, any costs or changes to aircraft carriers must be well planned to support the five-year build rate. He rounded out his presentation by emphasizing the need for a limit in ship types to prevent procurement reductions such as those occurring with DDG 1000. He also explained the need for opportunities to share lessons learned among different ship programs for maximum cost effectiveness. In closing, VADM Balisle noted that since fewer new ships would be procured, improved maintenance was important because ships would require a longer service life than currently in practice. The Admiral was certain continuing partnerships between the marine industry and its Navy customer would accomplish the objective.

As Mr. Schettler introduced the next guest speaker, he noted that marine industry suppliers, such as those represented in MMA, were an important part of the solution spoken of by VADM Balisle. Modular mission packages, like the ones designed for the LCS program, along with modular systems for ships, would be an important element for future hulls as well as modernization of existing hulls. Marine industry suppliers are experts on the systems and equipment they provide to shipbuilders. Therefore, they have a key role in helping the customer to understand the potential impacts of a design change. Suppliers are also crucial to the development of good maintenance procedures.

The next speaker was Captain Alexander DesRoches, Commanding Officer, Naval Surface Warfare Center Carderock Division – Ship System Engineering Station (NSWCCD-SSES). Captain DesRoches presented information to the conference on the Navy’s machinery system design tool, known as Systems Engineering Application for Quickly Evaluating Shipboard Technologies or SEAQUEST. The captain began his presentation by stating NSWCCD-SSES’ responsibility for all naval machinery from development through procurement and maintenance. He also noted that NSWCCD has the resources – personnel, facilities, and expertise – to be a contributing partner to shipbuilders and suppliers in the search for successful opportunities to control shipbuilders’ cost of HM&E equipment. As the captain indicated, machinery and systems can be developed in a staggering number of configurations based on the mission requirements as well as the number and type of components. To avoid unexpected or increased costs, a clear understanding of the



Captain Alexander DesRoches, USN
Photo by Jim Quade

requirements, types of equipment available, and their impacts upon each other are needed to effectively design a system. Traditional approaches to system design have often used subjective analysis with limited results. On the other hand, computer modeling can allow a variety of factors to be accounted for in a design and provide more accurate results.

SEAQUEST uses computer modeling and a set-based analytical approach not only to create multiple system designs, but to identify those specific designs with the greatest opportunity for success. SEAQUEST allows the user to input the system requirements along with limiting factors such as available equipment. The tool then creates the architecture for design models. From this architecture, sub-models can be created and tested to provide data and allow for modification of the requirements. As analysis continues, the sub-models are refined with information on parameters of influence, bounds of investigation, points of interest, and potential research areas. These elements are further refined and incorporated into additional models, producing optimized designs which can be examined and selected for incorporation into a ship design. The result is a reduced chance of unexpected problems when the system is built or tested – a factor which can greatly influence the cost of installing a system on a ship.

SEAQUEST has already been successfully used in the study of alternative propulsion methods for Navy ships. Its flexibility allows for comparison of requirements. It has also proven to be a great tool for selecting the proper individual components for a system.

Manufacturer's Panel Discussion

After a short break, several MMA presenters took the stage for a manufacturer's panel discussion. The discussion was moderated by Gary Schettler and consisted of four presentations, along with an opportunity for questions. Mr. Schettler began by addressing specific points from Secretary Gates' recent budget address. He then introduced the first panel speaker, Mr. Pat Bussie of Fairbanks Morse Engine (FME).

Mr. Bussie opened his remarks by noting that care should be taken with respect to ship requirements and needed requirements should not change. He indicated there were plenty of lessons from submarine shipbuilding programs that could greatly aid in the cost reduction of new surface ships. One example that proved to be effective was batch ordering of equipment, such as FME diesel engines. This strategy not only saves money, but it also allows the supplier to plan for material costs and provides commonality to each class of ships. There is also the opportunity to prepare for long lead time material – another factor which can escalate costs for the shipbuilder as well as the supplier if not properly taken into account. Mr Bussie cited examples of similar successes within the LHD 8 program. He mentioned his company's policy of holding roundtable discussions twice each year to solicit feedback from customers. In closing, Mr. Bussie encouraged participants to discuss requirements with customers and to resolve any requirements that could potentially cause issues.

Next in the discussion was MMA Vice Chairman Jack Barney of York International. Mr. Barney presented information on the Value Engineering Program. Mr. Barney defined value engineering as a systematic process of function analysis to identify actions that reduce cost, increase quality, and improve mission capabilities across all DOD systems, processes, and organizations. The DOD Value Engineering Program is an incentive for government and industry partners to improve value by promoting innovation and creativity. To support the Value Engineering Program, Mr. Barney provided an extensive list of innovative ways to reduce shipbuilding costs. For example, volume purchasing has repeatedly proven to be



MMA Vice Chairman Jack Barney
Photo by Jim Quade

economical. If larger numbers of identical ships were built, they could be purchased in quantity and reduce not only the construction costs, but life cycle maintenance costs as well. Standardization of equipment across different ship platforms would also contribute significant cost reductions. To achieve this standardization, outdated technical specifications and testing requirements would need to be eliminated or revised. In fact, the Navy would be well served with standard specifications across all platforms rather than ones which are unique to a specific class. A better balance of mission requirements would also aid in cost reduction by allowing for only mission essential systems and equipment to be incorporated into a ship design. Mr. Barney also discussed some benefits of Performance-Based Logistics (PBL) and Condition-Based Maintenance (CBM).

Mr. Barney's presentation was followed by an interesting discussion on controlling hull, mechanical, and electrical equipment costs presented by Bob Perdue of Baldor-Reliance. Mr. Perdue identified three cost drivers that impact the cost of electric motors supplied to the Navy. One major factor has been the specifications used for electric motors. The current military specification requires high shock resistance, ultra-high efficiency, and low noise. All three of these



Mr. Bob Perdue of Baldor Reliance
Photo by Jim Quade

factors contribute to high motor costs and are not necessary for all applications. Mr. Perdue noted that Baldor-Reliance has been working closely with the Navy to revise motor specifications. Another consequence from over-specification is an increased number of features required on a motor which can also raise costs. Mr. Perdue remarked that a shift to alternative specifications such as those used in the commercial shipping industry, would prove advantageous to the Navy and aid in reducing costs. Finally, Mr. Perdue identified the Berry Amendment as another factor. The Berry Amendment is a modification to the Defense Federal Acquisition Regulation Supplement (DFARS) which requires the Department of Defense to give preference in procurement to certain domestically produced or manufactured products, including specialty metals. This potentially impacts the cost and availability of metals needed for motor roller bearings and magnets. Mr. Perdue described several efforts his company is undertaking to mitigate the impact of the Berry Amendment and assure compliance. He noted the development of quality assurance and design procedures, a better defined supply chain and logistics process, and continued input on waivers and exemptions would aid in reductions of HM&E equipment costs.

The final panel discussion presentation was provided by Ms. Mickey Fedorko of Jered, LLC. Ms. Fedorko described how her company's products were custom built to satisfy customer specifications. Because of this manufacturing process, a steady flow of customer orders was critical to sustain business. Therefore, improvements to internal processes have been implemented to increase production efficiency and reduce costs. For example, complex elevator and cargo handling systems are manufactured and installed in a complete package. Additionally, where it is practical, many modular components and subsystems are utilized to aid in manufacture and installation of the system. Implementing these measures has significantly reduced overhead and other expenses for the company.



Ms. Mickey Fedorko
Photo by Jim Quade

At the conclusion of presentations, the floor was opened for questions. Mr. Barney responded to a question about the business case of performance based logistics. In his response, he noted the business case is good. However, no one knows exactly what the cost would be for the Navy to do what a PBL provider can do. Another question concerned the effectiveness of using strictly COTS equipment for ships. The panel indicated there were few real case examples to provide a solid answer. However, initial steps in this direction have indicated no real cost savings may be

realized. One member noted the LCS platform as a good opportunity to prove the worthiness of COTS equipment. A final question arose about the Navy's receptiveness to specification revisions. The response from panel members was very encouraging.

A Leaner, Greener Navy

After the panel discussion, Dr. William Luebke, Director for Naval Machinery, Naval Sea Systems Command (NAVSEA) and Mr. Tom Martin, Technical Warrant Holder and Director for Machinery Integration (NAVSEA) shared their presentation on the Navy's energy strategy. Dr. Luebke cited the volatile price of crude oil over the last few years as a significant impact on the types of ships to build noting that fleet wide, fuel costs could run between \$1 to \$5 Billion, depending on the barrel price of oil. Considering the amount of energy consumed by the U.S. Fleet, the DOD could spearhead efforts to develop new energy technology. Currently, the U.S. consumes approximately 20.5 million barrels of oil each day. Of that amount, approximately 2% is used by the government. The majority of that petroleum is used by DOD and a significant portion of the DOD's consumption is required by the U.S. fleet. While this amount may seem small in comparison, it doesn't change the fact that oil is a concern for the Navy. The Navy is literally at the mercy of the market for both supply and cost. Therefore, efficient energy alternatives must be explored.



Dr. William Luebke - NAVSEA
Photo by Jim Quade

Dr. Luebke reported that the Navy hopes to reduce its oil consumption by increasing technological advances in alternative forms of energy. Although other forms of energy, such as nuclear and natural gas are used by the Navy, they comprise only a small percentage of the Navy's total energy consumption. Increased use of renewable energy sources would also help the environment by lowering carbon emissions. To accomplish these objectives, the Navy has set aggressive goals for the year 2020. A significant plan for the Navy is to reduce its use of commercial shore power by 60%. This includes a reduction in fossil fuel power generation and the incorporation of more renewable sources of energy. The Navy also hopes to reduce its dependence on fuel oil

for its ships without any sacrifice to tactical capability. Although these goals may seem challenging, the Navy has not been idle.

Currently, there are several initiatives in place which have provided substantial results. The most notable is the Navy's Incentivized Energy Conservation Program (i-ENCON) which promotes energy conservation on ships. By utilizing technologies such as stern flaps and variable pitch propeller controls, ships can move through the water more efficiently and save fuel. Advancements in hull coating technology have also reduced buildup of biological growth from seawater on hulls which can also slow ships. Implementation of these technologies has resulted in a savings of over 10 million barrels of oil over the last ten years. The Navy is also exploring options with hybrid electric drives and more efficient shipboard HVAC units as additional energy improvements. Dr. Luebke stressed that partnerships between the Navy and industry leaders such as MMA would be the key to success in energy developments.



Mr. Tom Martin - NAVSEA
Photo by Jim Quade

Cost Reductions through Commonality of Components

The afternoon session continued as RADM William Landay, Program Executive Officer, Ships, presented remarks on commonality of components within the fleet. In recent years, members of



RADM William Landay, USN
Photo by Jim Quade

the marine industry and the Navy alike have called for increased commonality of components across different ship platforms as a significant cost reduction measure. Issues such as standards, specifications, and availability of materials have hampered commonality efforts. However, RADM Landay noted some success in this area. One significant example mentioned was the DDG 1000 program. Despite some of the difficulties involved with its development, the ship was developed with 30% fewer parts than the current DDG 51 class. Additionally, DDG 1000 has over 63% of its parts in common with parts on DDG 51. As the Admiral pointed out, this translates into an active inventory ready for immediate use.

RADM Landay expects this success to be incorporated into future ship designs. One goal for the CG(X) program is to achieve a 70% commonality with DDG51 and DDG 1000. Affordability of components will be the key.

RADM Landay summarized his presentation by stating that affordability and commonality will soon rival capability as a primary requirement for ships. He also stressed that open architecture of hardware and software would be a key element in the implementation of commonality. Commonality combined with cross-program purchases will result in significant cost reductions. He concluded by stating the importance of innovation. However, innovation must be implemented for affordability as well as capability.

For the next presentation, Mr. Thomas Konen, Technical Document/Specifications and Standards Coordinator of NSWCCD, Philadelphia (NAVSSSES), discussed the Documents for Ship Cost Reduction Program (DSCR). The program is designed to help the Navy decide how to revise material specifications for the shipbuilding program. In this program, the Navy teamed with MMA members to analyze existing specifications. The first step identified the total cost of specifications under review. Next, information was solicited from MMA members concerning those specifications which affect the costs of materials, equipment, and services supplied for shipbuilding. Ten specifications were initially identified by MMA and presented to NAVSSSES. Next, changes to the specifications that would result in cost savings were proposed and assessed for risk factors. The proposed changes to specification, along with the risk assessments will be presented to Naval Systems Engineering Directorate (NSED) leadership for acceptance. Once approved, the changes will be incorporated into the appropriate specification. At present, the success of the DSCR program has resulted in NAVSEA's desire to have ten major specifications under review at all times. The positive contribution of this new ability to analyze and implement proposed changes will help NAVSEA achieve the Navy's ultimate goal to build an affordable fleet.



Mr. Thomas Konen - NAVSSSES
Photo by Jim Quade



Mr. John Sofia - NAVSEA
Photo by Jim Quade

After Mr. Konen, John Sofia, Director of NAVSEA's Surface Technology Program Office, provided additional information on commonality efforts. Mr. Sofia stated in his presentation that the accumulation of non-standard HM&E equipment is a major cost driver in support of shipbuilding. In fact, out of 65,000 components installed on Navy ships, at least 51% of them had five or fewer installations. This staggering figure has essentially created a mandate for

“Affordability and commonality will soon rival capability as a primary requirement for ships.”

commonality throughout the fleet. NAVSEA’s response to this problem is the NAVSEA Commonality Instruction. The overall goal of the instruction, currently under development by NAVSEA, is to minimize variation in design by applying a common sense approach to the appropriate levels of equipment or system design. This instruction defines a policy for commonality along with the supporting processes and responsibilities of key participants. Mr. Sofia explained that the goal was not to unnecessarily eliminate all product variation for all systems and components at all levels. Instead, it is a method to reduce excessive parts or system requirements with a common sense approach that doesn’t sacrifice quality or safety. Commonality should only be applied where it is needed and only to the level necessary to achieve desired objectives. This instruction ensures these objectives are carried out without sacrificing the fleet’s capabilities. As NAVSEA continues to develop this instruction, there are 46 systems which are being reviewed for commonality with a goal of reducing the overall number of Navy Allowance Parts Lists (APLs).

The final presentation of the day was provided by Ms. Kathleen Stupinski, Subcontracts Manager at Bath Iron Works (BIW). BIW has been the primary shipyard constructing the DDG 1000 which Secretary Gates referred to in his address. Although Mr. Gates noted in his address that construction would shift to the primary yard, Ms. Stupinski indicated Northrop Grumman Shipbuilding (NGSB) would still be involved in construction of major assemblies. Ms. Stupinski highlighted some of the successes achieved in the construction of DDG 1000. She also noted that ship design is interdependent. If a change occurs in one system design, it has the potential to impact the design of other systems. She also explained that design changes impact non-recurring costs – particularly if the non-recurring costs are spread over fewer-than-anticipated hulls as in the case of DDG 1000. Ms. Stupinski noted that industry should play a key role in reducing these non-recurring costs by making use of existing design as much as possible. She concluded by noting that cost challenges to DDG 1000 would continue. However, active partnerships between shipyards and industry suppliers would facilitate the reduction of material costs which in turn would reduce the overall cost of building a ship.



Ms. Kathleen Stupinski - Bath Iron Works
Photo by Jim Quade

After closing remarks by Gary Schettler, the conference was adjourned with an invitation to all for the next annual meeting.

An Opportunity for Success

Secretary Gates closed his recent budget address by noting his proposals represented an opportunity to reform military procurement practices while still meeting strategic objectives and priorities. MMA desires the same goals for the military and the marine industry as well. Secretary

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Gates also indicated his desire to work with industry in order to achieve his budget goals. MMA has proven to be an active partner, working with the Navy and its agencies to provide innovations and ideas that will lead to an efficient but effective

fleet. Active communication, mutual cooperation, and increased coordination between the Navy, shipyards, and suppliers have been and will continue to be the keys to create an opportunity for success.

MMA is actively involved in collaborative projects which will further the efforts of cost reduction in shipbuilding and repair. The organization welcomes any opportunity to work with shipyards and government agencies and is dedicated to the goal of reducing costs.

Whatever the obstacle may be, MMA remains firm in its commitment to work closely with government partners developing and implementing cost-cutting solutions. □

For more information on membership or details about the Marine Machinery Association, visit <http://www.marmach.org>.

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