

National Shipbuilding Research Program Advanced Shipbuilding Enterprise



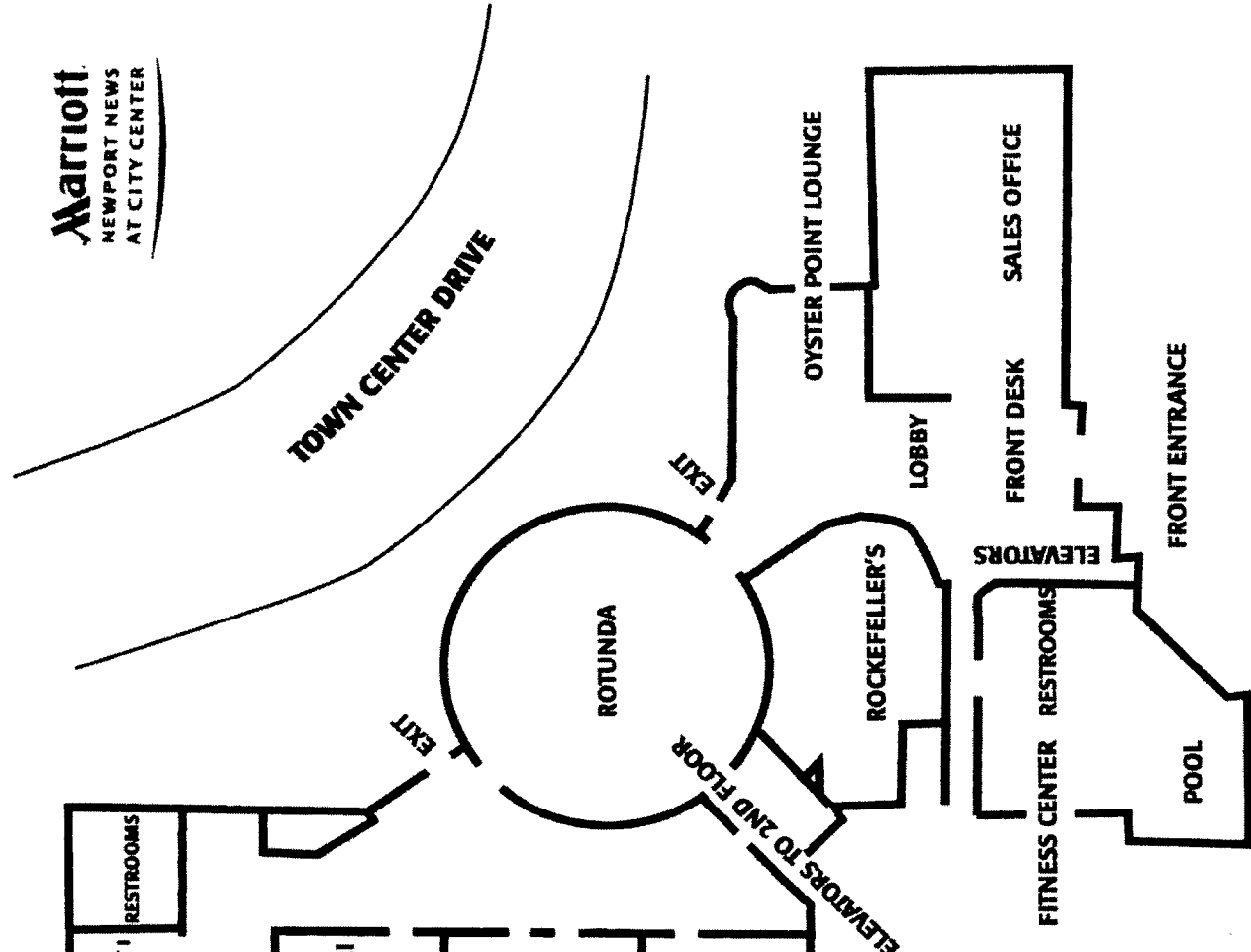
All Panel Meeting

Newport News, VA

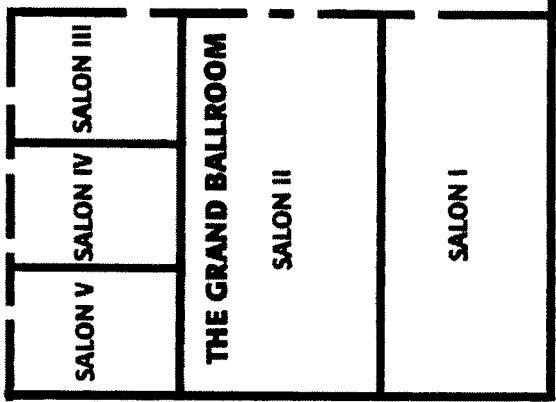
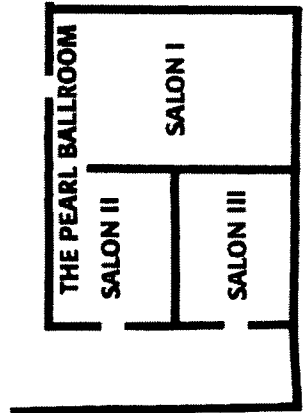
October 4-6



Co-funded by NAVSEA & the U.S. Shipbuilding and Repair Industry with additional support from Navy Program Executive Offices.



BLUE POINT ROOM



ROCKEFELLER'S HOURS
 Breakfast 6am - 11:30am
 Lunch 11:30am - 5pm
 Dinner 5pm - 10pm

OYSTER POINT LOUNGE'S HOURS
 Breakfast 6am-11:30am
 Lunch 11:30pm - 5pm
 Dinner 5pm - 12pm

ROOM SERVICES' HOURS (select items available for all day dining)
 Breakfast 6am - 11:30pm
 Lunch 11:30am - 2pm
 Dinner 5pm - 11pm

NEWPORT NEWS MARRIOTT AT CITY CENTER
 740 TOWN CENTER DRIVE
 NEWPORT NEWS, VA 23606

GUEST FAX (757) 873-9298
TELEPHONE (757) 873-9299

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All Panel Meeting

Tuesday, October 4, 2011

7:30AM	Continental Breakfast Provided			Grand Ballroom Salon II
8:00AM	General Session			Grand Ballroom Salon I
8:00AM-	Welcome/Day 1 Intro Remarks - Tonya Boney			
9:45AM	Welcome to Newport News - Peter Diakun, ECB Member - Newport News Shipbuilding			
	ECB Keynote - Paul Albert, ECB Chairman - VT Halter Marine			
	NSRP NAVSEA Program Update - Connie Bowling, NSRP NAVSEA Program Manager			
	Integrated Warfare Systems - Jimmy D Smith, PEO IWS			
9:45AM	Break			Grand Ballroom Salon II
10:00AM	Individual Panel Briefs			Grand Ballroom Salon I
10:00AM	Ship Design & Material Technologies (Dave Wood)			
10:10AM	Electrical Technologies (Gary Zimak)			
10:20AM	Planning, Production Processes & Facilities (Tonya Boney)			
10:30AM	Surface Preparation & Coatings (Steve Cogswell)			
10:40AM	Welding Technology (Lee Kvidahl)			
10:50AM	Business Processes (Ken Clarke)			
11:00AM	Information Technologies (Dr. Burt Gischner)			
11:10AM	Environmental (Pat Killeen)			
11:20AM	Risk Management (Jack Shea)			
11:30AM	Workforce Development (Mark McCoy)			
11:45AM	Lunch (Not Provided)			
1:00PM	Technical Tracks			
	Ship Production Technologies Thurston Gore	Infrastructure & Support Jack Shea	Business Processes & Information Systems Ken Clarke	Ship Design & Material Technologies Dave Wood
	Grand Ballroom Salon I	Grand Ballroom Salon III	Grand Ballroom Salon IV	Grand Ballroom Salon V
1:00PM	Large Scale Modeling & Simulation Efforts Jeff Schaedig, NASSCO	OSHA Subpart F - Lockout/Tag out Final Rule Laura Mathisen, BIW –SHAC Co-Chair	Large Scale Modeling & Simulation Efforts Jeff Schaedig, NASSCO (in Grand Ballroom I)	Design for Maintenance Dennis Fanguy, Bollinger
1:15PM				

All Panel Meeting

Tuesday, October 4, 2011

1:30PM	Swaged Bulkhead Analysis Verification <i>Jessica Green, NAASSCO</i>	Newport News Shipbuilding Apprentice School <i>Everett Jordan, NNS</i>	Common Parts Catalog (CPC) Enhancements Project <i>Edward Mueller, Electric Boat</i>	NVR Strength Criteria Implementation into MAESTRO FEA Applicatoin <i>Shaun Hunter, DRS Defense Solutions</i>
1:45PM				
2:00PM	Break	Grand Ballroom Salon I		
2:30PM	Construction of the DDG 1000 Composite Deckhouse <i>Jay Jenkins, Ingalls Shipbuilding</i>	"Best of the Best" Practices in Shipyards Workers Compensation <i>Barry Thompson, Risk Acuity</i>	Naval Vessel Ice Capability Optimization Effort <i>Zenka Sellinger, NAASSCO</i>	Workforce Development <i>Mark McCoy, WD Panel Chair & Dave Bennett, WD Vice-Chair</i>
2:45PM				Design Space Navigator for Steel Structures <i>Paul Blomquist, Applied Thermal Sciences, Inc.</i>
3:00PM	Weld Shrinkage and Distortion Allowance Data Model for Neat Construction Ship Design <i>James Dydo, Gatekey Engineering</i>	National Workforce Consortium for Shipbuilding and Repair – Collaborating for Global Competitiveness <i>Dr. Alok Verma, ODU</i>	Enterprise Resource Planning (ERP) Integration with CAD <i>Pat Roberts, ShipConstructor</i>	Automated Analysis and Optimization of Ship Hull Structure <i>Craig Collier, Collier Research</i>
3:15PM				
3:30PM	Evaluation of "Spot and Sweep" Blasting as a Cost Effective Method of Underwater and Outer Hull Surface Preparation <i>Steve Cagwell, BAE Systems SE</i>	Social Media & Claims Management <i>Liam Murray, Digistream Inc.</i>	Ship Common Information Model <i>Dr. Burt Gischner, Electric Boat</i>	
3:45PM				Hanger Standardization <i>Sean Murphy, Ingalls Shipbuilding</i>
4:00PM	Fiber Optic Tester With Go-No-Go Acceptance Criteria <i>Gary Zimak, NNS</i>	Implementation of Emissions Factors <i>Joe Jackens, CTC</i>		
4:15PM				
4:30PM	Streamlining Shipyard Rigging Analysis <i>Lucas Gray, NAASSCO</i>		Holistic Risk and HSEQ Management for Maritime <i>Dennis Medler, DNV</i>	Steel and Steel Processing to Benefit Ship Construction <i>Rob Akans, CTC</i>
4:45PM				
5:00PM	Adjourn			
6:00PM	Reception/Tour			<i>Mariners' Museum</i>

All Panel Meeting

Wednesday, October 5, 2011

7:30AM	Continental Breakfast Provided				Grand Ballroom Salon II
8:00AM	General Session				Grand Ballroom Salon I
8:00AM	Welcome/Day 2 Intro Remarks - Mark McCoy				
8:05AM	International Shipyard Visits Report - Bob Schaffran/Ron Glover				
9:15AM	Break				
9:45AM	Technical Tracks				Grand Ballroom Salon II
	Ship Production Technologies	Infrastructure & Support	Business Processes & Information	Individual Panel Meetings	
	Technical Track Shawn Wilkerson Grand Ballroom Salon I	Technical Track Jack Shea Grand Ballroom Salon III	Systems Technical Track Dr. Burt Gischner Grand Ballroom Salon IV	Ship Design & Material	Technologies Panel Meeting Dave Wood Grand Ballroom Salon V
9:45AM	21st Century Smart Weld	Preventing Shipyard Injuries from	Workforce Development	See Individual Panel Meeting Agendas	
	Inspection System to Improve	Contact with Objects &	Mark McCoy, WD Panel Chair &		
	Ship Performance	Equipment	Dave Bennett, WD Vice-Chair		
10:00AM	Jeff Noruk, Servo-Robot	Teresa Preston, EHS Made Easy	Update on STEP Development and		
			Implementation at the PDES, Inc.		
10:15AM	Development of Course Material	Workforce Development	Consortium		
	for Training Rigging Engineers	Mark McCoy, WD Panel Chair &	Charlie Stirk, CostVision		
	Dannelly Brown, NASSCO	Dave Bennett, WD Vice-Chair			
10:30AM		Creating Workforce for Marine			
		Industry – MarineTech and			
10:45AM	Workforce Development	Marine Career Tech Projects			
	Mark McCoy, WD Panel Chair &	Dr. Alok K. Verma, ODU			
	Dave Bennett, WD Vice-Chair				
11:00AM	Retention of Pre-Construction	Industrial Shipbuilding Training	Improved Methods for the		
	Primer During Shipbuilding	Using Serious Gaming Technology	Generation of Full-Ship		
	Pete Ault, Elzly and Judie Blakey,	Rex Wallen/Justin Wright/Rachel	Simulation/Analysis Models		
	NASSCO	Biehl, NNS	Stewart Moore, Electric Boat		
11:15AM					
11:30	Lunch (Provided)				Grand Ballroom Salon II

All Panel Meeting

Wednesday, October 5, 2011

		Individual Panel Meetings			
Technical Track, Continued		Environmental Panel	Surface Preparation & Coatings Panel	Information Technologies Panel	Ship Design & Material Technologies Panel
1:00PM	Ship Production Technologies Technical Track Shawn Wilkerson Grand Ballroom Salon I	Pat Killeen Grand Ballroom Salon III	Steve Cogswell Blue Point I	Dr. Burt Gischner Grand Ballroom Salon IV	Dave Wood Grand Ballroom Salon V
1:00PM	Low-Cost Virtual Reality Welding Trainer System	See Individual Panel Meeting Agendas			
1:15PM	Ken Fast, Electric Boat and Jerry Jones, NA Tech				
1:30PM					
1:45PM					
2:00PM	Electrode Gas Shielded Processes for Productivity, and Distortion in Thin Panel Butt Joints for Thin Panel Structures Ken Johnson, Vigor				
2:30PM	Break	See Individual Panel Meeting Agendas			
2:45PM	First Time Quality, NDE, and Fitness for Service Technology for Friction Stir Welding and Manufacturing Aluminum Ship Panels James Dydo, Gatekey Engineering, Inc. and Dennis Fanguy, Bollinger	See Individual Panel Meeting Agendas			
3:00PM					
3:15PM	Evaluation of Current Fillet Weld Sizing Criteria Pingsha Dong, UNO, TD Huang/Lee Kvidahl, Ingalls, Dennis Fanguy, Bollinger	See Individual Panel Meeting Agendas			
3:30PM					

All Panel Meeting

Wednesday, October 5, 2011

3:45PM	Development of Design-for-Production Training Module <i>TD Huang, Ingalls and Pingsha Dong, UNO</i>	<i>See Individual Panel Meeting Agendas</i>
4:00PM		
4:15PM	Elimination of Over Welding to Reduce Distortion in Naval Shipbuilding Applications <i>TD Huang, Ingalls</i>	
4:30PM		
4:45PM		
5:00PM	Adjourn	
5:00PM	Project Meetings (Limited to Project Participants)	
	<i>Grand Ballroom Salon IV</i>	
5:00PM	Large Scale Computer Simulation Modeling System Enhancements *	Streamlining Rigging Analysis *
5:30PM		Swaged Bulkhead Analysis *
6:00PM		Naval Vessel Ice Capability *
	<i>Grand Ballroom Salon V</i>	

*Project meeting limited to project team.

All Panel Meeting

Thursday, October 6, 2011

7:30AM		Continental Breakfast Provided				Grand Ballroom Salon II	
8:00AM		Individual Panel Meetings					
8:00AM		Surface Preparation & Coatings Panel Steve Cogswell	Electrical Technologies Panel Gary Zimak	Welding Technology Panel Lee Kvidahl	Workforce Development Panel Mark McCoy	Planning, Production Processes & Facilities Panel Tonya Boney	Ship Design & Material Technologies Panel Dave Wood
		Grand Ballroom Salon I	Grand Ballroom Salon IV	Grand Ballroom Salon III	Blue Point I	Blue Point II	Grand Ballroom Salon V
8:00AM							
8:30AM							
9:00AM							
9:30AM							
10:00AM							
10:30AM							
11:00AM							
11:30AM							
12:00PM		<i>See Individual Panel Meeting Agendas</i>					
1:00PM							
1:30PM							
2:00PM							
2:30PM							
3:00PM							
3:30PM							
4:00PM							
4:30PM							
5:00PM		Adjourn					

Keynote Speakers

Tuesday, October 4, 2011

Peter Diakun
Vice Chairman, ECB
Vice President, Platform Integration and Technology
Development, Northrop Grumman Shipbuilding – Newport
News

Peter (Pete) C. Diakun is vice president of platform integration and technology development at Northrop Grumman Shipbuilding. Named to this position in 2008, Diakun's responsibilities include leading technology development and platform integration programs for the Newport News and Gulf Coast shipyards. Specific programs include warfare systems, networks, integrated power, operations research, operational capabilities analysis, and modeling and simulation. He also has operational responsibility for the Virginia Advanced Shipbuilding and Carrier Integration Center (VASCIC) and Washington Engineering office.

Diakun has more than 22 years of experience in submarine and surface ship programs with the former Newport News sector, most recently serving as director for technology development. His responsibilities included managing technology development, research and development and warfare systems programs for nuclear-powered carriers and submarines.

He earned a bachelor's degree in electrical engineering from Virginia Tech and a master's degree in management of business administration from Rensselaer Polytechnic Institute.

Paul Albert
Chairman, ECB
Vice President Production, VT Halter Marine

Mr. Albert is the Chief Operating Officer at VT Halter Marine. He is responsible for the production and on-time delivery of vessels constructed at Pascagoula Operations and oversees overall yard operations, performance of all production departments, monitoring of all project subcontractors, monitoring of yard Quality System and Continuous Process Improvement, manpower allocation of production crafts and production budgets and schedules.

Mr. Albert has over 30 years experience in the design and construction of commercial and U.S. Naval vessels. Prior to joining VT Halter Marine in 2000, he served as the Director of Unit Construction, Production Manager and Engineering Section Manager at Avondale Shipyards. He also served as Morgan City Shipyard Operations Manager and TNG Shipyard/Offshore Fabrication Division Manager for McDermott International.

Mr. Albert attended the University of Alabama, where he majored in Industrial Technology.

Connie Bowling

NAVSEA NSRP Program Manager

Ms. Bowling is the Naval Sea Systems Command National Shipbuilding Research (NSRP) Program Manager. Ms. Bowling represents the many Navy acquisition and in-service programs and Technical Warrant Holders seeking to reduce Navy's total ownership cost, improve workmanship quality and meet the energy goals of the Secretary of the Navy via the use of technologies and innovations in the shipbuilding industry.

Ms. Bowling's recent experience includes assignments with the Vice Chief of Naval Operations (VCNO) and Assistant Secretary Navy, Research, Development and Acquisition (ASN RDA) and OPNAV N4 as a senior advisor for acquisition and in-service policy and process development in support of the Provider Enterprise. Ms. Bowling led the Department of Navy functional team to develop the new SECNAV 5000.2 requirements for Total Ownership Cost (TOC). In addition, Ms. Bowling led a cross System Command effort for the development of a common Cost Work Breakdown Structure for product and processes associated with TOC.

Previously, Ms. Bowling was the Strategic Advisor for Commander, Naval Sea Systems Command (NAVSEA) working to achieve the CNO's objective of establishing the new Provider Enterprise (Hardware and Services Command organizations) in support of the Navy Enterprise framework.

Ms. Bowling has over 36 years of diverse experience in the Department of the Navy (DoN), having led major and minor acquisition and in-service programs both at the field activity and SYSCOM levels. Some of the positions she has held include the Executive Director for the Virtual SYSCOM, the Deputy Program Manager for Submarine Overhaul Program, and the Logistics & Total Ownership Cost Director for LPD 17 new ship acquisition. She has also developed DoD level policies and processes while on special assignments for the Office of Secretary of Defense (OSD) and Assistant Secretary of the Navy (ASN).

Ms. Bowling is a member of the Defense Acquisition Professional Community; she is level III certified as a Program Manager and as an Acquisition Logistician. Ms. Bowling is the recipient of the Department of the Navy (DoN) Superior Civilian Service medal, the SECNAV Acquisition Excellence Award and the DoN VADM Stan Arthur Logistician of the Year award.

Jimmy D. Smith
Director Above Water Sensors
Program Executive Office, Integrated Warfare Systems
Naval Sea Systems Command

Mr. Smith currently serves as the Director for the Above Water Sensors Directorate within the Program Executive Office for Integrated Warfare Systems. There he manages the efforts focused on planning, procuring and sustaining effective war fighting sensors, electronic warfare systems, missiles, guns, and ammunition systems for all U.S. Navy surface ships. He was selected for this position and Senior Executive Service in March 2010, after nearly 19 years of government civil service.

Most recently, Mr. Smith served as the Deputy Executive Director for Undersea Technology where he was responsible for transitioning science and technology projects, from the Office of Naval Research and Defense Applied Research Projects Agency, into submarine acquisition programs for current-day and future operational use. In a collateral capacity to this role, he served as both the Deputy Program Manager and Research and Development Manager for the OHIO Replacement Program where he developed the program's research and development plan, long range budget, and the acquisition strategy for the U.S. Navy's newest class of Ballistic Missile Submarines.

Mr. Smith graduated from Tuskegee University with a bachelor's of science in mechanical engineering. Graduate-level academic studies include Environmental Engineering, Marine Engineering and Business Management.

He began his career in government civil service in 1991 at the Naval Sea Systems Command in Washington, DC where he was an Engineer-In-Training. One year later, he began working for the VIRGINIA Class Submarine Program and over the next 13 years, Mr. Smith held positions as the program's Construction Manager, Test & Evaluation Manager, Environmental Manager and the Cost Reduction and Producibility Manager with distinction and received 28 awards and recognitions for outstanding performance and leadership.

Most notably, in 2003, while serving as the Construction Manager for the first seven submarines of the VIRGINIA Class, Mr. Smith was responsible for managing all manufacturing efforts involved in getting each submarine built, through their initial at-sea tests, and delivered to the U.S. Navy. Achievements included the satisfactory completion of the first submarine's construction phase, four highly successful at-sea tests were conducted, and in October 2003 the first submarine of the class – *USS VIRGINIA (SSN 774)* – was delivered to the U.S. Navy.

Jimmy Smith (Continued)

In 2005, while serving as the Deputy Program Manager for the OHIO Class Submarine Guided Missile Conversion (SSGN) Program, Mr. Smith provided senior-level guidance and day-to-day direction in areas of the program that included, but were not limited to cost control, construction schedule adherence, submarine safety, producibility enhancements, strategic budgetary planning, and contract negotiations. In recognition of outstanding management and leadership he, along with the entire program office team, was awarded the Department of Defense David Packard Acquisition Excellence Award.

Mr. Smith also served on the staff of the Deputy Assistance Secretary of the Navy for Shipbuilding Programs in a dual capacity as the Director for Submarines and the Director for Strategic Systems Programs. He was awarded the Navy's Civilian Meritorious Service Award in March 2007 for his leadership and strategic planning skill.

Along with being a member of the Acquisition Professional Community, Mr. Smith has three Defense Acquisition Workforce Improvement Act Level III Certifications. Certifications held in Program Management, Test & Evaluation and System Planning Research Development and Engineering.

Keynote Speakers

Wednesday, October 5, 2011

INTERNATIONAL SHIPYARD VISITS

Bob Schaffran

Ron Glover

At the direction of the NSRP Executive Control Board, two teams of shipyard and Navy representatives were formed for the purpose of visiting shipyards in Asia and Europe. Through discussions with key foreign shipyard managers and tours of their shipyards the U.S. teams were tasked to observe and record processes, practices and technologies employed in shipbuilding. To improve foreign shipyard access and visibility of the shipyard practices, shipyards with relationships with NSRP shipyards were targeted with special emphasis on shipyards building/repairing naval vessels. In order to maximize the benefit of the time available within the shipyards, four main focus areas were targeted and provided to the shipyards in advance of the visits along with related questions to help guide the discussions. These focus areas and sub-areas were developed from the 2005 benchmarking of the U.S. first-tier and mid-tier shipyards and were the areas that provided the greatest opportunity for improvement in U.S. shipbuilding efficiency. The focus areas targeted included:

- Ship Design and Design for Production
- Production Engineering and Planning
- Purchasing and Material Management
- Organization and Structure

The teams for both the Asian and European shipyard visits were made up of members with expertise in the four focus areas from both mid- and first-tier shipyards, and Navy personnel with responsibility in ship acquisition and R&D management.

The Asian shipyard visits took place during the week of April 18, 2011, and included Sembcorp (Jurong Shipyard) and ST Marine (Tuas and Benoi shipyards) in Singapore, and Daewoo Shipbuilding and Marine Engineering (Okpo Shipyard) in Busan, South Korea. The European shipyard visits took place during the week of May 9, 2011, and included Fincantieri (Muggiano and Riva Trigoso Shipyards) in Italy, and Navantia Fene-Ferrol (Ferrol Shipyard) in Spain.

The findings from both the Asian and European shipyards visits were summarized by the teams and organized into immediate, near-term and long-term investment opportunities for the U.S. Shipbuilding and Repair industry.

Robert W. Schaffran

Independent Shipbuilding Industry Consultant

Over 25 years experience in successfully formulating, promoting and managing large, national level, research and technology development programs. Knowledgeable of advanced industrial practices and processes that result in increased productivity, reduced cycle time and continuous quality improvement. Experienced in organizing successful collaborative working environments for both industry and government. Broad knowledge of all phases of the ship design and construction process. Knowledgeable of design and construction processes and technologies used by US shipyards and major Asian and European shipyards. Recognized expert and invited speaker at domestic and international symposia.

Work Experience:

- 98-11 Independent Consultant
- 94-98 DARPA MARITECH Program Director
- 86-94 Navy Surface Weapon Center (NSWC) Carderock - Director, Shipbuilding Technology Division
- 72-86 US Maritime Administration - Manager, Shipbuilding R&D / NSRP Program Manager
- 66-72 Norfolk Naval Shipyard - Supervisory Nuclear Engineer / Chief Test Engineer
- 65-66 US Merchant Marine - 3rd Engineering Officer

Education: BS Marine Engineering, State University of NY Maritime College

Ron Glover

Vice President

ATI

Email: ron.glover@ati.org

Mr. Glover has over 27 years experience managing people, processes, projects, training and the operations and maintenance of U.S. Navy ships. He has, for the most recent thirteen years, been in ATI leadership and management positions where he has served as Vice President ATI, Vice President Advanced Maritime Technology division of ATI, Technical Director for the National Shipbuilding Research Program (NSRP), Director of the Center for Naval Shipbuilding Technology (CNST) and Program Manager of the Seabasing Future Naval Capability (FNC) Program on Shipboard Internal Cargo Movement. In these positions he has been directly involved in business development, strategic planning, and oversight of major R&D programs leading to successful technology transition to the warfighter. His diverse background includes the positions and experiences that follow.

As Senior Principal Engineer, in a part time position, he serves as a member of the management team, supports special programs and business development within the Maritime Division and ATI in general.

As Vice President of Advanced Maritime Technology, he managed the operations of the business unit and the programs operated by the business unit. In this function, he interacted with other business unit managers and senior managers of other organizations including the major maritime industry representatives in a major seaport.

As Technical Director of the NSRP, Mr. Glover oversaw the technical efforts of the 26 major NSRP funded projects. He was directly involved in the solicitation, selection process and award negotiation of these projects. He oversaw the distributed Major Initiative Team Leaders representing the NSRP shipyards in the development of the annual project solicitation and the Proposal Preparation Kit. He was also directly responsible for establishing and training the Technical Evaluation Review Panel and overseeing its members' performance during the proposal evaluation process. Mr. Glover has worked closely with First Marine International in the preparation for and evaluation of shipbuilding and ship repair benchmarking. He also reviewed U.S. and foreign benchmarking reports and participated in training the U.S. benchmarking team. Once projects were awarded, he was directly involved in the assessment of project deliverables for completeness and value to Navy and industry and for best method determination for technology transfer to the industry.

Ron Glover (Continued)

As the Director of the Center for Naval Shipbuilding Technology, Mr. Glover oversaw the funding, project selection and project execution for this \$5M per year shipbuilding manufacturing technology program. He directed the on-site and distributed staff and interacted with Navy Program Managers for Submarines, Carriers and Ships to insure shipbuilding and repair manufacturing technology projects selected for funding had the greatest potential return to the Navy.

In his commissioned Naval Service, he commanded a fast attack nuclear submarine, a surface repair ship, a nuclear power prototype training facility including two moored training ships and a 2,100 person depot-level repair facility that conducted maintenance availabilities on submarines and surface ships. He has experience in Navy new construction, repair, conversion and overhaul. His vast experience also includes strategic planning and program development.

Mr. Glover received a Bachelor of Science Degree in Electrical Engineering from Purdue University and an MBA from Brenau University. He has been a guest lecturer at the Defense Acquisition University on Shipbuilding and Ship Repair R&D.

PLANNING, PRODUCTION PROCESSES & FACILITIES

Discussing the principal manufacturing process, equipment, planning, and other activities used to transform purchased materials (e.g., raw steel plates, structural shapes, components) and systems into completed products.

Tonya Boney

Planning, Production Processes & Facilities Panel Chair

Ingalls Shipbuilding
1000 Access Road, MS 7010-16
Pascagoula, MS 39567
Phone: (228) 935-4850
Email: tonya.boney@hii-ingalls.com

Tonya G. Boney currently holds the position of Program Director in Facilities Engineering at Ingalls Shipbuilding. In this role she is responsible for real estate management of all Ingalls Shipbuilding facilities as well as the Huntington Ingalls Industries, Inc. corporate office. Since 2009, she has been focused on managing the design and construction of a new 76,000-square-foot Maritime Training Facility which is expected to be complete in March 2013. She began her career at Ingalls Shipbuilding in 1999 as an Industrial Engineer. She holds a bachelors degree in Engineering from the University of Southwestern Louisiana (now known as the University of Louisiana at Lafayette). Since beginning her career at Ingalls Shipbuilding, she has held positions of increasing responsibility including Sector Supervisor of Industrial Engineering Work Measurement and Process Improvement, LPD Program Production Manager for Pascagoula Operations, and Sector Director of LPD Program Support. Mrs. Boney has been an active member of the Shipyard Production Process Technologies Panel since 2000 and was elected to and served on the Panel's Steering Committee since 2001. She is currently a member of the Society of Naval Architects and Marine Engineers and the Society of Women Engineers.

BUSINESS PROCESSES

The Business Processes Panel provides a public forum for discussing all principal business processes – from initial business strategy development through post-delivery customer service – required to rapidly and effectively respond to the marketplace.

Ken Clarke

Business Processes Panel Chair

Newport News Shipbuilding
4101 Washington Ave.
Building 520-2, Office 210
Newport News, VA 23607
Phone: (757) 380-3333
Email: ken.clarke@hii-nns.com

Mr. Clarke is a 40+ year employee of Newport News Shipbuilding and has held management positions in Aircraft Carrier New Construction and Overhaul Nuclear Engineering, Waterfront Trades Administration, Submarine Overhaul Program Office, International Commercial Ship Marketing, Naval Business Technology Marketing, Human Resources, Supply Chain Management and Program Production Engineering Office. Mr. Clarke is certified in Lean Manufacturing by the Virginia Manufacturing Extension Program. He is a graduate of the Newport News Shipbuilding Apprentice School in Nuclear Engineering Design; has a BS degree in Business Administration from Christopher Newport University and a Master's degree in Business Administration from Old Dominion University.

SURFACE PREPRATION & COATINGS

Discussing specifications, receipt inspection of materials, preparation for coating, application of coatings, personnel protection, and clean-up and environmental compliance, as they relate to the shipbuilding/repair industry and its customers.

Steve Cogswell

Surface Preparation & Coatings Panel Chair

BAE Systems Southeast Shipyards
8500 Heckscher Drive
Jacksonville, FL 32226
Phone: (904) 251-1573
Email: Stephen.Cogswell@BAESystems.com

Steve is the Paint Department Craft Manager for BAE Systems Southeast Shipyards Jacksonville, Florida. His primary responsibilities are managing two Paint Departments in the Jacksonville area; New Build Conversion and Repair/Dry Dock- commercial and Navy work and the Mayport Division- SRA, CMAV & MSMO availabilities on the Mayport Naval Station. Steve has 30 years of experience in all facets of Marine Surface Preparation and Coating. He is the current NSRP Surface Preparation and Coating (SPC) Panel Chair. The SPC Panel works closely with NAVSEA 05P23 on many projects focused on reducing costs while maintaining quality. He is a NACE Certified Coating Inspector and has an AS degree in Industrial Management. He remains active with SSPC as an instructor, QP-1 Steering committee member and standard review boards for both SSPC and NACE.

INFORMATION TECHNOLOGIES

Discussing the underlying systems infrastructure required to support the other initiatives, with emphasis being given to the tools that reduce principal business processes - from initial business strategy development through post-delivery customer service - required to rapidly and effectively respond to the marketplace.

Dr. Burton Gischner

Information Technologies Panel Chair

Electric Boat Corporation
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75 Eastern Point Road
Groton, CT 06340-4989
Phone: (860) 433-3948
Email: bgischne@gdeb.com

Dr. Gischner is a Principal Engineer at Electric Boat Corporation with 40 years experience in computer technology and software development for submarine design and fabrication. He received a B.S. from Columbia University in 1967; an Sc.M. from Brown University in 1969; and a Ph.D. from Brown University in 1972.

He is currently serving as Chairperson of the Information Technologies Panel for the NSRP A.S.E. Program, and is an active member of the SNAME Ship Production Committee.

Dr. Gischner has been involved with NSRP Projects to develop an Integrated Shipbuilding Environment (ISE) since their inception, and is currently the Technical Leader for an NSRP Project to develop an Integrated Logistics Environment (ILE).

In the International Standards arena, he functions as Chairman of the United States Technical Advisory Group (TAG) for ISO TC184/SC4. This is the organization that determines voting positions for the United States on all STEP related issues within ISO. In this capacity, he also serves as Head of Delegation for the United States at all ISO STEP Meetings. He received the 2005 International William J. Conroy Standards Professional Award for his exceptional leadership in the development and implementation of Product Data Exchange Standards.

Dr. Gischner has been the lead developer and architect of Electric Boat Corporation's software system for piping fabrication. This set of computer programs produces automated pipe details, pipe assemblies, material ordering information, and instructions to feed numerically controlled pipe bending, marking, and cutting machines. It has been used for design and construction of the 688, TRIDENT, SEAWOLF, and VIRGINIA class submarines, and is also being used to support VIRGINIA pipe fabrication at Huntington Ingalls - Newport News.

ENVIRONMENTAL

Discussing environmental compliance issues as they relate to the shipbuilding/repair industry and its customers.

Pat Killeen

Environmental Panel Chair

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Mr. Killeen is the Corporate Director of Environmental Health and Safety for Signal International located in Pascagoula, Mississippi. Pat's corporate responsibilities include all phases of environmental and safety regulatory law compliance, corporate policy development and EHS business strategy composition. Pat has 26 years of Environmental Health and Safety experience, all within the marine fabrication industry. His degree is in Business Administration.

Pat's professional achievements include development of a comprehensive EHS Management Plan. His team has consistently reduced all emissions released from all Signal operations, virtually eliminated all waterborne releases from the facilities and brought down the OSHA recordable rate of the Signal International facilities, a minimum of 200% below the national average for their industry. Of particular significance, in the past three years, the OSHA rate has been below one (1.0); previously unheard of in the marine fabrication industry.

Pat is a member of the American Society of Safety Engineers (ASSE), a registered Environmental Manager with the National Registry of Environmental Professionals, a member of the National Shipbuilding Research Program (NSRP) Environmental Panel, former Chairman of the Board for the Shipyard Association for Environmental Responsibility, Chairman of the AEU Shipyard Safety Committee, and a member of both the Safety and Environmental Committee of the Shipbuilders Council of America.

WELDING TECHNOLOGY

Discussing methods and processes to improve the technology of welding, cutting, forming and burning as it pertains to and is applied to the shipbuilding/repair industry and its customers.

Lee Kvidahl

Welding Technology Panel Chair

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Lee Kvidahl is the Manager of Welding Engineering at Ingalls Shipbuilding in Pascagoula, Mississippi, where he has worked for more than 35 years. Kvidahl's responsibilities include: investigating and implementing new manufacturing production methods to ensure productivity improvements; training craft and management in welding, materials and inspection technology; managing internally and externally funded research and development programs; justifying and monitoring capital and operation budgets; assisting in developing and preparing proposals for research and development; and providing metallurgical engineering support for the shipyard. Kvidahl has collaborated on the publication of six books in the areas of metals and welding. He is a past president of the American Welding Society. Kvidahl received a bachelor's degree in Engineering from Stevens Institute of Technology.

WORKFORCE DEVELOPMENT

Discussing issues, approaches, resources and programs to meet the needs of people and organizations. The Panel ensures that technologies implemented from NSRP and Panel projects consider the required supporting areas of Education & Training, Tech-Transfer, Organizational Change and Human Resources.

Mark McCoy

Workforce Development Panel Chair

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Mark has been with GD-NASSCO since 2003. As a Senior Training and Development Specialist, Mark has had responsibilities for creating and delivering a variety of training. As part of the Organizational Development department, his initial projects included developing and delivering several training programs for first and second-line supervisors and senior managers. In 2008, Mark became a Lean Six Sigma Green Belt and developed GD-NASSCO's Lean Certificate Training.

Mark moved to the Trades Training department in 2009, where he became responsible for instructional design and training project management. He also manages the AS in Shipbuilding Technology program offered on the shipyard through San Diego City College.

Prior to joining GD-NASSCO, Mark completed a 20-year military career, with the last 10 spent as a Navy Career Counselor.

He holds a Masters of Arts in Organizational Management from the University of Phoenix, and a Bachelor's Degree in Liberal Arts – Management Emphasis from Excelsior College. Additionally, Mark has earned a Professional Certificate in Human Resource Management from University of California, San Diego.

RISK MANAGEMENT

Discussing the functions of providing and maintaining a physical plant capable of assembling, modifying and repairing ships in an efficient, safe, controllable and ecologically acceptable manner and, in doing so, reduce work-related injuries/illnesses and their associated costs.

Jack Shea

Risk Management Panel Chair

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Jack Shea is Government Liaison at Electric Boat Corporation. Shea is actively involved in government affairs and business legislation at both the state and federal levels. He is Chairman of the Connecticut Business & Industry Associations' (CBIA) Workers' Compensation Council and is a registered lobbyist for Electric Boat at the Connecticut General Assembly. During his 28 year career at EB, he has been involved in various workers' compensation programs and safety initiatives to control costs and reduce on-the-job injuries. Shea received his bachelor's degree from the University of New England and a master's degree in Human Resource Management from Rensselaer Polytechnic Institute.

SHIP DESIGN & MATERIAL TECHNOLOGIES

Discussing the parametric design rules, metrics, detail design, and materials standards, engineering data, and advanced product designs and materials to support the rapid and efficient development of the next generation of high performance ships.

Dave Wood

Ship Design & Material Technologies Panel Chair

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Dave Wood is a Project Engineer at Ingalls Shipbuilding - Avondale Operations with over thirty nine years of maritime experience. Before joining Ingalls, Wood served in the U.S. Navy on seven ships, progressing from Seaman to Commanding Officer of an ammunition ship. Wood's shore duties included Engineering Instructor for Naval Department Heads, Executive Officer of a major shore station, and Chief Staff Officer of a Military Sealift Command sub-area. Wood graduated from Cornell College with a bachelor's degree in History and Political Science. He has Engineering Officer of the Watch (EOOW) qualification for 1200 psi, twin plant, and steam propulsion and had a sub-specialty in 1200 psi steam engineering. At Avondale Operations he is coordinating ship repair and commercial business initiatives.

ELECTRICAL TECHNOLOGIES

Provides a public forum for discussing and investigating all electrical issues as they relate to the current and future shipbuilding/ship repair industry and its customers.

Gary Zimak

Electrical Technologies Panel Chair

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Gary Zimak currently holds the position of Program Quality Director, CVN New Construction at Huntington Ingalls Industries - Newport News Shipbuilding. He is responsible for providing an independent, compliance and mission-success-focused assessment assuring the effective implementation and institutionalization of the Quality Management System. Gary started his career at Newport News in 1982 in the Electrical Engineering department. He holds undergraduate degrees in Electrical Engineering Technology and Business Management from Pennsylvania State University and Saint Leo College and a Masters degree in Systems Engineering from Virginia Tech. He has held positions of increasing responsibility throughout his career at Newport News Shipbuilding including Quality Improvement Administrator, Engineering Supervisor, Manager of Continuous Improvement, Manager of Non-Destructive Testing (NDT) and most recently Electrical Value Stream Director.

Ship Production Technologies Technical Track

Tuesday, October 4, 2011

Thurston Gore – Track Leader

Ship Production Technologies Major Initiative Team Lead

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Thurston Gore is the Manager of Production Engineering at Newport News Shipbuilding. Gore has more than 35 years of shipbuilding experience in a variety of positions including Production Engineering, Industrial Engineering, and Production Planning. His past responsibilities include the development of the production plan for the design and construction of various types of ships, including Los Angeles Class submarines, Fast Frigates, Arsenal Ship, as well as, the development and maintenance of a total plan and schedule for the design and construction of the SEAWOLF Class submarine. His current focus is production enhancements on Virginia Class submarines and CVN 21 Class Aircraft Carriers. Gore has been active in NSRP as a member of the Planning Production Processes & Facilities Panel (formerly the Shipyard Production Process Technologies Panel). He holds a bachelor's degree from North Carolina State University in Engineering Operations.

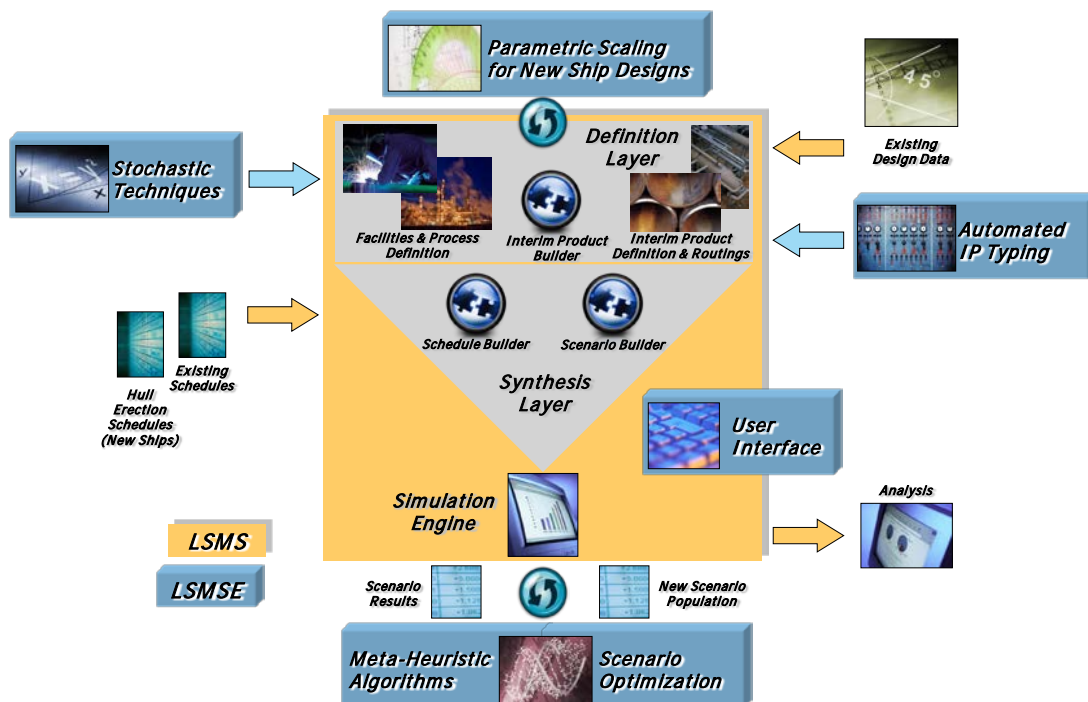
LARGE SCALE COMPUTER SIMULATION MODELING SYSTEM ENHANCEMENTS (LSMSE)

Jeff Schaedig, General Dynamics - NASSCO

The Large Scale Simulation Modeling System Enhancements project (LSMSe) builds on the LSMS system developed and implemented at NASSCO. The LSMS simulates both current and future production workloads through a shipyard-wide manufacturing simulation model, providing the ability to identify production bottlenecks, and enabling the user to quickly identify improved production plans and necessary facility/resource requirements.

Scheduled to complete in December 2011, the following additional capabilities are planned to be developed and implemented during the project:

- Optimization tools to automate the search for best case scenarios
- Stochastic techniques to include real world parameter variability
- Rule sets and software tools for automated assembly definition and typing
- Software tools for work content definition of new ship types prior to detail design
- Enhanced user interfaces for facility modeling and assembly definition capabilities
- Enhanced database management techniques for new capabilities



Jeff Schaedig

Industrial Engineering Specialist

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Jeff is an Industrial Engineering Specialist and the Technical Project Manager for the LSMSe project. Since joining NASSCO in 1995 he has held key positions in Engineering, Planning, and Production. The focus of his career has been the introduction and development of new technologies into these three areas. Although many of the projects have been computer-based in nature, Jeff has spent a significant amount of time on the shop floor and deck plates integrating the developed technologies into a real world environment. Jeff graduated from the University of Michigan with a Bachelors of Science Degree in Naval Architecture and Marine Engineering and has over 12 years of experience in manufacturing simulation modeling.

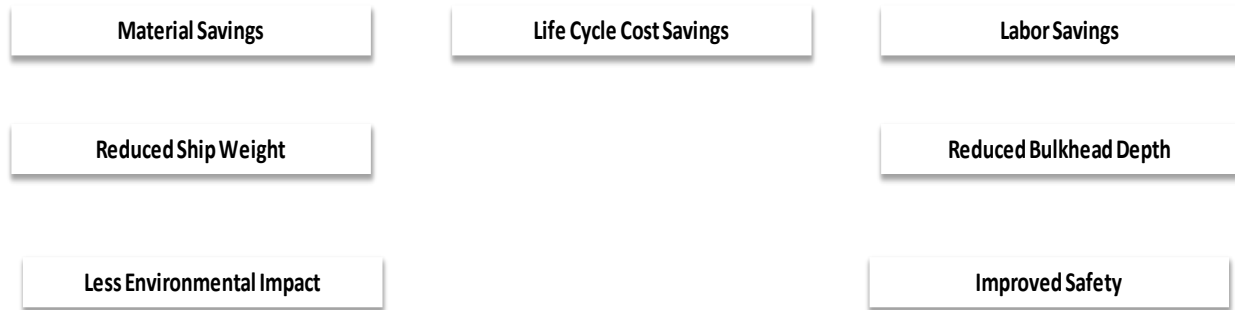
SWAGED BULKHEAD ANALYSIS VERIFICATION

Jessica Green, General Dynamics - NASSCO

The Swaged Bulkhead Analysis Verification RA project builds on a recently completed panel project which has validated the ability to attain analytical results for swaged and stiffened bulkhead configurations subjected to various loads, and to compare those results to physical model tests. This research project will use larger scale models and a wider range of configurations, thus producing analytical and physical test results with higher quality and reliability.

The main objective of this project is to further analyze swaged bulkheads versus traditional stiffened bulkheads to demonstrate and validate structural behavior and cost benefits.

WHY USE SWAGED BULKHEADS



The project is divided into three 12-month phases, and is scheduled for completion in April 2014.

GD NASSCO has partnered with Marinette Marine Corporation, which will build steel and aluminum swaged bulkheads in Phase I, tracking labor, material and other costs and verifying paint adhesion, and University of California San Diego, which will perform physical testing of the swaged bulkheads to verify their structural performance under various loads.

Jessica Green

Engineer I

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Ms. Green is an Engineer supporting the Initial Design and Naval Architecture (IDNA) functional engineering group in structural design and analysis.

Currently Ms. Green is involved in structural design activities in support of GD NASSCO's present design contract for the Mobile Landing Platform (MLP). Ms. Green is updating two structural analysis guides that will be used by all of IDNA's designers and engineers during the MLP design contract phase, the Structural Design Criteria and Ship Motions and Acceleration Factors.

Following her successful work as a technical lead on the recently completed NSRP Panel Project *Swage Panel Analysis Verification*, Ms. Green is actively involved in the current NSRP RA project *Swaged Bulkhead Analysis Verification*.

Ms. Green received a Bachelor of Science degree in Structural Engineering from University of California San Diego.

CONSTRUCTION OF THE DDG 1000 COMPOSITE DECKHOUSE

Jay Jenkins, Ingalls Shipbuilding, Gulfport Operations

The purpose of this presentation is to describe the current construction efforts for the DDG 1000 Zumwalt composite deckhouse being built by Ingalls Shipbuilding Composite Center of Excellence in Gulfport, Mississippi. The DDG 1000 Zumwalt is the U.S. Navy's newest multi-mission destroyer with a mission focus on land attack. This class of three ships is designed to defeat current and future threats in surface warfare, anti-aircraft missions, and naval gunfire support. Designed with a radar cross-section that is equivalent to a small fishing vessel, the dominant external feature of the ship is the wave-piercing bow and reverse tumblehome that extends from the water line through the deckhouse and hangar structures.

The presentation will provide a brief overview of the Ingalls Shipbuilding Composite Center of Excellence facility at Gulfport, Mississippi. The DDG 1000 Deckhouse construction consists of a balsa/synthetic core and carbon fiber infused with an epoxy vinyl ester resin utilizing a Vacuum Assisted Resin Transfer Method (VARTM) process. The composite construction process will be discussed step by step illustrating how the raw materials are processed to form composite components, (making our own "steel"), and then assembled into the deckhouse structure using modified shipbuilding techniques. The presentation will also briefly touch on how outfitting a composite structure is different from steel outfitting processes.

James L. (Jay) Jenkins
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Mr. Jay Jenkins is the Site Director for Ingalls Shipbuilding, Gulfport Operations, reporting to Kevin Amis, Vice President of Operations. Jay has been with Ingalls Shipbuilding for 14 years and has served in positions as the Operations Director for Gulfport Operations (2008-2009) and Program Manager for Hurricane Katrina Claim (2005-2008). Prior to that, he served as the Deputy Program Manager for the LPD 17 Program, LPD 17 Operations Director and the Program Manager for the LPD 17 Integrated Product Development Environment (IPDE) implementation. Prior to joining Ingalls Shipbuilding, he served 21 years in the Navy as an Engineering Duty Officer with tours at the Supervisor of Shipbuilding, New Orleans, the Naval Sea Systems Command in Washington, DC, and Puget Sound Naval Shipyard, in Bremerton Washington. Jay attended the University of Michigan where he earned a degree in Naval Architecture and the Naval Postgraduate School where he received his Masters in Mechanical Engineering. He is married to the former Cynthia Ellis of Busti, New York and they have three daughters and seven incredible grandchildren, all residing in Slidell, Louisiana.

WELD SHRINKAGE AND DISTORTION ALLOWANCE DATA MODEL FOR NEAT CONSTRUCTION SHIP DESIGN ENGINEERING

James R. Dydo, GatekeySM Engineering, Inc.

Distortion of panels and structures due to welding and thermal cutting processes is a familiar issue to shipbuilders. Distortion can be a particularly significant problem for today's "thinner structures" [i.e. less than 9.5 mm thick plate] that are increasingly used to reduce the weight of modern military ships. Stiffened panels, comprised of butt welded plates with stiffeners fillet welded to them are a basic element of ship construction. Stiffened panels are then assembled into units and blocks that are erected into the completed ship. Stock-side construction practices are still widely used in US shipbuilding, largely due to the lack of accurate and reliable weld shrinkage and distortion allowance data. The National Shipbuilding Research Program (NSRP) initiated a two-year project in 2010 to provide a comprehensive weld shrinkage and distortion prediction model that enables neat construction capability across the U.S. shipbuilding industry. The project is being performed by the cooperative efforts of four shipyards, teamed with a research institute, a ship design software provider, and ship engineering consulting firms. A key component of the project is a predictive weld shrinkage model based on current ship designs, materials, and construction practices that can be directly interfaced with ship CAD design tools.

The weld shrinkage prediction model being developed during this project consists of a series of empirical equations developed by analysis of shrinkage data from welded panels fabricated in the shipyards. Measurements of the panels were made throughout each step of fabrication to provide accurate weld shrinkage data that was then analyzed by regression analysis to produce equations that permit the calculation of weld shrinkage based on the conditions used for fabrication. These shrinkage calculations for thin ship panels are unique, since the existing empirical predictive weld shrinkage formulae developed by world-wide researchers are primarily for plate thickness greater than 12.7 mm.

The shrinkage prediction model is implemented in an Excel spreadsheet user interface designed to predict total panel shrinkage due to welding based on the user inputs of panel geometry and welding parameters. Good agreement was achieved when shrinkage predictions from the Excel spreadsheet were compared with ship panel measurement data.

James R. Dydo

Principal Engineer

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Dr. James R. Dydo has extensive experience in analyzing, designing and developing systems for a range of industrial applications in the following industries: oil, petrochemical, automotive and shipbuilding. He is Founder and President of GatekeySM Engineering, Inc. an engineering services company. Formerly, he was a Principal at Advanced Computational and Engineering Services, LLC. At the Edison Welding Institute, Dr. Dydo led technology developments in computational simulations of advanced welding processes. At SEA, Inc. he performed design and failure investigations. At Chevron, USA he was in charge of design and installation of processing equipment for petrochemical and refining plants. Dr. Dydo is a Licensed Professional Engineer in the States of Ohio and California.

Dr. Dydo has wide-ranging experience in advanced finite element analysis and design of structural components. His areas of technical expertise are as follows:

- Structural engineering analysis
- Design of engineering structures
- Fitness for service analysis
- Analysis of structural distortion and
- Development of constitutive material models

Dr. Dydo has utilized his expertise to develop and apply advanced engineering technologies in which computational simulations are employed to provide practical and cost effective solutions. He has solved a range of critical manufacturing and process problems in the Shipbuilding and Heavy Equipment, Automotive and Medical industries, utilizing a variety of modeling techniques. Additionally, Dr. Dydo has developed technology that has been applied to introduction of new products with wider commercial applications. He designed an innovative method for reducing welding induced distortion. He has redesigned a range of components in order to achieve improved operation and extended operational capability, through analyses of critical structural components and manufacturing processes. He has provided professional consulting services to several hundred industrial firms and organizations.

Dr. Dydo has worked extensively with worldwide academic and industrial research and development institutions, in order to develop technology and identify unique applications for new technological developments.

EVALUATION OF “SPOT AND SWEEP” BLASTING AS A COST EFFECTIVE METHOD OF UNDERWATER AND OUTER HULL SURFACE PREPARATION

Stephen Cogswell, BAE Systems Southeast Shipyards

The NSRP Surface Preparation and Coatings (SPC) Panel is performing a project to evaluate the potential cost savings for the US Navy if the commercially acceptable practice of a spot and sweep surface preparation was adopted in lieu of the currently specified full coating removal. The presentation will cover the details of the project listed and show cases the recently completed evaluation of the Spot & Sweep approach on several ships including the USS Klakring (FFG-42).

Currently, the US Navy completely removes and replaces underwater hull coating systems after an 8-year service life. Commercial (general cargo fleet, tankers, bulkers, and cruise liners) practice is to repair the system at 36-60 month intervals by removing only loose or delaminated coating, applying primer to exposed steel, additional anti-corrosive as needed and applying full antifouling coats. High speed semi-automated robots are available which utilize patented air-gap magnetic technology, in conjunction with ultra-high pressure water-jetting (UHPWJ) that have been performing such removal (high speed spot and sweeping) to yards throughout Europe, the Middle East, Japan, Singapore, and the Caribbean for the past several years. UHPWJ production rates for full removal of hull coating systems range from 275-500 ft²/hr depending on size of the pump. “Spot and Sweep” rates typically reach 1100-2500 ft²/hr of production. Such machinery was successfully witnessed by over 30 government and contractor representatives at BAE Norfolk in August 2010 on a DDG-51 outer hull in dry dock.

Since only a fraction of the anti-corrosive coating breaks down periodically it is redundant and perhaps unnecessary to completely remove 90-95% of intact coating to bare metal (as required by Standard Item 009-32) each time the coating system is renewed. It has been reported that some commercial ships will last 30 years before the coating system is completely removed and replaced. If the maintenance procedure can be deemed suitable for 8 year docking cycles rather than the shorter cycles used in commercial practice, the Navy could recognize a significant reduction in painting costs and time in dock for painting.

This work supports TOC, Quality and Green initiatives.

Steve Cogswell

Surface Preparation & Coatings Panel Chair

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Steve is the Paint Department Craft Manager for BAE Systems Southeast Shipyards Jacksonville, Florida. His primary responsibilities are managing two Paint Departments in the Jacksonville area; New Build Conversion and Repair/Dry Dock- commercial and Navy work and the Mayport Division- SRA, CMAV & MSMO availabilities on the Mayport Naval Station. Steve has 30 years of experience in all facets of Marine Surface Preparation and Coating. He is the current NSRP Surface Preparation and Coating (SPC) Panel Chair. The SPC Panel works closely with NAVSEA 05P23 on many projects focused on reducing costs while maintaining quality. He is a NACE Certified Coating Inspector and has an AS degree in Industrial Management. He remains active with SSPC as an instructor, QP-1 Steering committee member and standard review boards for both SSPC and NACE.

FIBER OPTIC TESTER WITH GO-NO-GO ACCEPTANCE CRITERIA

Dan Morris, Kitco

Gary Zimak, Huntington Ingalls Industries – Newport News Shipbuilding

The objective of this project was to reduce excessive re-work and replacement of fiber optic connectors during ship construction caused by poor endface quality and contamination that result from inadequate inspection and cleaning procedures. It is difficult to perform root cause analysis each and every time a connector fails and therefore when failures occur the associated re-work with wasted labor and material costs are usually not appropriately captured. Therefore cost increases specifically related to poor connector endface quality are not tracked or associated back to the actual problem. In the harsh shipyard environment, these costs can be substantial.

The project developed a Mil-Std-2042B compatible endface inspection profile to be used with an automated fiber optic connector quality assessment device that provides a "Go/No-Go" result for shipyard and fleet technicians. The profile identified acceptable acceptance criteria based on critical endface and fiber zones by measuring and grading; pits, scratches and contamination. The project investigated and evaluated the feasibility of utilizing a handheld automated fiber optic connector inspection device utilizing a probe and LCD display that provides a "Go-No-Go" result that can be stored for field use by shipyard and fleet technicians.

This improved system enhances performance and consistency, reduces re-work due to poor endface quality and contamination, removes human subjectivity through the use of an automated tool that provides a consistent determination of connector quality, increases optical performance through higher quality connectors, reduces training for field termination, reduces time for connector installation and most importantly achieves material and labor savings.

Gary Zimak

Electrical Technologies Panel Chair

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Gary Zimak currently holds the position of Program Quality Director, CVN New Construction at Huntington Ingalls Industries - Newport News Shipbuilding. He is responsible for providing an independent, compliance and mission-success-focused assessment assuring the effective implementation and institutionalization of the Quality Management System. Gary started his career at Newport News in 1982 in the Electrical Engineering department. He holds undergraduate degrees in Electrical Engineering Technology and Business Management from Pennsylvania State University and Saint Leo College and a Masters degree in Systems Engineering from Virginia Tech. He has held positions of increasing responsibility throughout his career at Newport News Shipbuilding including Quality Improvement Administrator, Engineering Supervisor, Manager of Continuous Improvement, Manager of Non-Destructive Testing (NDT) and most recently Electrical Value Stream Director.

STREAMLINING SHIPYARD RIGGING ANALYSIS

Lucas Gray, General Dynamics - NASSCO

Modern ship construction methods demand bigger and more heavily outfitted ship blocks, which require an increasing amount of rigging engineering to lift safely.

The expansion of shipyard-oriented Rigging Engineering Guidance will provide personnel across the industry with modern reference material, a better understanding of the operational variables and dynamics of lifted structure, and the analytical tools available. This guidance will help facilitate large, heavily outfitted lifts and will lead to more efficient production processes, less probability of block distortion, lower construction costs, reduced rework, and increased safety.

The overall project goal is to improve Rigging Engineering Guidance for lifting ship units through research and documentation of the structural response of common block types, operational variables, and dynamics loads. This loading range will be balanced against the accuracy of various analysis methods such as FEA and classic sectional analysis.

The key project deliverables are:

- Research into the accuracy of classical and FEA when applied to shipyard rigging engineering
- Documentation of actual stresses in lifted blocks and operational and dynamic loads experienced
- Estimation of the required modeling detail and best application of FEA to obtain optimal accuracy
- Industry-wide training resources for shipyard rigging engineers



Lucas Gray

Senior Engineer

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Mr. Gray has over eleven years experience in engineering and production environments having worked at several ship and boat yards as well as research oriented facilities. Previously he was primarily involved with the design of marine structure, but as of late has been devoted to supporting shipyard rigging activities. This includes the creation of rigging planning guides, conducting destructive tests on integrated padeyes to confirm their failure modes and ultimate strength, created documentation regarding the proper use of high capacity synthetic roundslings, cataloging common shipyard rigging equipment, and investigations into the theoretical load sharing abilities of flounder plates and equalizer bars.

Currently he is focused on continuing to improve and expand the references available to shipyard rigging engineers with the goal of documenting the operational variables, dynamics, and associated stresses within typical ship structure during rigging operations.

Mr. Gray received a BE Degree in Naval Architecture and Ocean engineering from Memorial University and is a licensed Professional Engineer in the state of California.

Ship Production Technologies Technical Track

Wednesday, October 5, 2011

Shawn Wilkerson – Track Leader

Major Initiative Team Lead

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Shawn Wilkerson is the Manager of Sector Integration in Production Engineering at Ingalls Shipbuilding. Wilkerson has 20 years of shipbuilding experience in a variety of positions including Advanced Planning, Program Management, Personnel, Engineering, and Shipyard Management. Mr. Wilkerson has been affiliated with the operations of the NSRP since 1994 including the initial development of the Strategic Investment Plan in 1998, a former panel chair (Facilities and Tooling panel) as well as a former chair of the LEAN Implementers Group. Mr. Wilkerson holds a bachelor's degree from the University of Southern Mississippi in Computer Engineering Technology.

21ST CENTURY SMART WELD INSPECTION SYSTEM TO IMPROVE SHIP PERFORMANCE

Jeffrey Noruk, Servo-Robot Corp.

Weld visual inspection methods have changed very little over the last 60 years and this is limiting improvement in productivity amongst the USA shipyards. The manual visual inspection done in shipyards is slow, subjective and due to a lack of repeatable tool, very redundant in nature with sometimes there being four different stages of in process quality control. Most aspects of other weld inspection methods like UT, RT, MT, etc have made great strides but most weld inspectors are still using Go/No-Go manual gauges like shortly after WW2.

The purpose of this project is to develop a Tool which can be used to make weld inspection as objective as possible thus reducing the redundancy built into the system thus improving productivity and at the same time improving the weld quality. Reduced weld repairs, less over welding and better documentation are all part of the benefits that should accrue from using this new portable weld inspection tool called Wiki-Scan/Ship

Jeffrey Noruk

President

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Career began as a welding engineer for Harnischfeger Corporation and since has been involved in all facets of welding automation. He is President of Servo Robot Corporation, a leading supplier of laser vision camera systems for robot guidance and weld inspection. Before that he was Manager of the R&D Lab for Tower Automotive and AO Smith Automotive. Prior to this he worked at Fanuc Robotics and Newport News Shipbuilding.

Mr. Noruk received a BS Degree in Welding Engineering from Ohio State University and an MS in Engineering Management from Milwaukee School of Engineering. He is an AWS Certified Welding Inspector, Certified Quality Engineer and a Professional Engineer.

DEVELOPMENT OF COURSE MATERIAL FOR TRAINING RIGGING ENGINEERS

Dannelly Brown, General Dynamics - NASSCO

The concept underlying this panel project is to document, in the form of training material, the practice of shipyard rigging design and operations to provide a training opportunity for naval architects and structural engineers who might be required to provide engineering support to shipyard rigging activities.

The training material is packaged in the form of presentations suitable for classroom instruction and structured in modules comprising a number of topic sessions. Each topic session would be tailored to last about 2-3 hours in a classroom environment, including time for student/teacher interaction.

Course Parts

Part 1 Introduction to Rigging & Lifting Operations

This part will comprise of topics covering shipyard rigging practices for lifting, turning, and transportation, roles and responsibilities of a rigging department, and roles and responsibilities of other departments in support of rigging operations. Standard and special lifting equipment and devices will be reviewed. A guided shipyard rigging and lifting tour is included as a separate topic. Rigging and lifting safety will be discussed, complete with illustrated examples of equipment and lift failures caused by design errors.

Part 2 Applicable Standards and Regulations

This part will comprise of topics providing an overview of the existing Federal and State legislation, standards and codes, governing lifting and aerial transportation of heavy loads, followed by a detailed review of the Below-the-Hook standards and codes used in the US for the design of BTH lifting devices (including structural, member, connection, and fatigue design).

Part 3 Lift Engineering Design

This part will comprise of topics covering the design of a block lift, including weight estimation, safety factors, location and arrangement of pad-eyes and other lifting aids, choice of rigging hardware, followed by an illustrated block lift design example. Crane arrangement design will be reviewed, and crane selection factors such as time, path, capacity and risks will be discussed. This part will be completed with illustrated lift engineering design examples, a final course test, and open discussion of the overall course material.

Scheduled for completion in November 2011, the project will provide a consolidated course presentation package, including:

- Course modules with baseline content
- Trainer's guide
- Student tutorial package with self learning guide

Dannelly Brown

Engineer II

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Ms. Brown has over four years experience in the Initial Design and Naval Architecture (IDNA) functional engineering group in hydrostatics, mooring, and yard support for both new construction and repair. She handles ship launches, inclines and deadweights, vibration issues during sea trials, and deliveries. She is also involved in tank loading plans during various phases of construction, report and drawing submission to ABS and NAVSEA, and ship checks.

For the past three years, she has also been a point of contact for Waterfront Services for pumping plans, mooring plans, and stability support.

Currently Ms. Brown continues to support ship launches, testing, and deliveries. She also contributes to concept design development and trade studies for future classes. She continues to support Waterfront Services as well.

She is actively involved in developing training content for the NSRP panel project “Development of Course Material for Training Rigging Engineers” based on input from engineers experienced in rigging design and operations, and information available in current rigging literature.

Ms. Brown received a BSE Degree in Naval Architecture and Marine Engineering from University of Michigan at Ann Arbor.

RETENTION OF PRE-CONSTRUCTION PRIMER DURING SHIPBUILDING

Pete Ault, Elzly Technology Corporation

Judie Blakey, NASSCO

This presentation will discuss pre-construction primer retention during shipbuilding. Inorganic zinc pre-construction primers (PCPs) are a special class of inorganic zinc primers. PCPs are designed to withstand the welding processes and handling damages during the fabrication process of blocks or modules prior to their incorporation into the permanent finished structure.

Current US Navy practice requires removal of pre-construction primers on all critical-coated surfaces. NSRP has sponsored a number of studies over the past 30 years which have supported retaining pre-construction primers as a cost saving measure without any service life impact. Several foreign commercial shipyards have recently performed testing in support of retaining PCP within the scope of IMO PSPC regulations.

While the technical obstacles to the use of PCP have been studied, US shipyards have performed limited demonstration and implementation of a process for effectively retaining PCP. A recently completed NSRP report has documented the procedures used to retain pre-construction primer during repair of USS VICKSBURG and during construction of the T-AKE class. In both cases the pre-construction primer is retained on steel in critical coated areas. The project ultimately resulted in an approval to retain pre-construction primer during ship construction and maintenance in most circumstances.

However, there is still reluctance by the coating manufacturers and the Navy to allow Pre-construction Primer (PCP) retention under the recently approved Ultra high solids, quick cure "Single Coat" system until compatibility has been demonstrated. Coating manufacturers have never tested the single coat products for use over retained PCP because, prior to the recently completed NSRP project that had to be removed from Navy tanks. A current project is utilizing ballast tanks prepared as part of a 1996 study to directly address the issue of single coat performance over retained pre-construction primer.

J. Peter Ault, P.E.
Sr. Consultant

Elzly Technology Corporation
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Mr. Ault has been actively involved in various aspects of corrosion control and materials engineering for over 20 years. He began his career at Ocean City Research Corporation performing coating and corrosion research for the Navy and other clients. In subsequent positions, he managed and trained coating inspectors and managed field and shop coating application businesses. Throughout his career he has studied coatings and corrosion phenomena on a wide variety of structures including ships, bridges, pipelines, storage tanks and historic structures. Since 2006, Mr. Ault has been a principal of Elzly Technology Corporation, an engineering firm which provides coatings and corrosion consulting services to DoD and other clients.

Mr. Ault is an active member of several technical societies including ASNE, SNAME, NACE International, SSPC, ASTM, and NSPE. He is a registered Professional Engineer in New York and New Jersey and holds Coatings Specialist certifications from both NACE and SSPC. Mr. Ault holds a B.S. degree in Mechanical Engineering and an MBA from Drexel University (Philadelphia, PA).

Judie Blakey
Superintendent Paint, Blast & General Services

General Dynamics NASSCO
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Ms. Blakey's career in shipbuilding began at GD NASSCO in 1974 and she has managed the paint operations for the company since 1994. Prior to managing the paint operations, she was assigned to various departments such as Ship Management, Master Planning, Repair Operations and was the Superintendent of all Scaffold, Carpentry, Labels and Temporary Services. She is an active member of the Society of Protective Coatings (SSPC), National Association of Corrosion Engineers (NACE), SSRAC (NAVSEA Standard Items Committee 009-32). She is currently the Vice Chair of the Surface Preparation and Coating Panel.

Ms. Blakey holds professional certificates from University of California San Diego in Business Management and Facilities Management. Her Paint Operations Organization has received the General Dynamics Lean Manufacturing Excellence Award.

LOW-COST VIRTUAL REALITY WELDER TRAINING SYSTEM

Ken Fast, Electric Boat

Jerry Jones, NA Tech

A new Virtual Welding System is being developed to help in training welders. Manual welding continues to be widely used in the shipbuilding industry. An aging workforce and regular turnover require that shipyards train large numbers of new welders. Welder training is both time consuming and expensive. As a result of lessons learned from commercial implementations of other virtual training systems, this new virtual welding system is designed to be low cost so that it will be affordable for shipyards and vocational institutions. The goal for this new system is to improve welder training effectiveness and reduce the time and cost of welder training. This is accomplished by more and better instructional feedback for the trainee, and by allowing unlimited practice. The system uses a true to life welding torch, helmet, and controls, and simulates an accurate and realistic visual and auditory welding experience. This presentation will provide an overview of the design of the virtual welding system and instructional tools. A prototype of the virtual welder will also be available for hands-on evaluation.

Ken Fast
Principal Engineer

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Mr. Fast has a degree in Mechanical Engineering from Worcester Polytechnic Institute. He is currently a Principal Engineer at Electric Boat/General Dynamics, where he works in the Advanced Technology Group of the IPDE organization. He was the system architect and technical leader for the EVS visualization system used at Electric Boat as the electronic mockup for the Virginia Class submarine program. He is responsible for corporate strategy in the use of visualization to support submarine design and construction. He is an active participant in the NSRP Planning, Production Processes & Facilities Panel. Mr. Fast works primarily on research and development tasks. This work covers a broad range of topics including visualization and virtual environments, IETM development, software tools to improve the design process, and advanced manufacturing technologies.

Dr. Jerry Jones
Chief Technology Officer

NA Tech, Inc.

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Dr. Jones is the Chief Technology Officer at N.A. Tech. Inc. He received an M.S. Degree in Mathematics, and a Ph.D. in Metallurgical Engineering, as well as completed all of the coursework for a Ph.D. in Mathematics. Dr. Jones was on the faculty of the Colorado School of Mines for 17 years and Director of the CSM Center for Artificial Intelligence. He has held positions of Visiting Researcher at the National Bureau of Standards, Fracture and Deformation Division, at the U.S. Army Construction Engineering Research Laboratory, and he was Visiting Research Scientist at the Ford Research Laboratory and earned both the 1995 and 1996 Ford Technical Achievement awards. Over the past three decades he has been a keynote speaker and invited lecturer in the United States, Canada, Mexico, Europe, and Japan on the subject of control of manufacturing processes and equipment.

Dr. Jones started a national advisory Committee on Computerization of Welding Information. This committee was transitioned into an American Welding Society Technical Committee (A9), which he chaired for six years. He has published more than 150 technical papers and 15 patents. He has received the AWS Awards for Outstanding Engineering Educator and for Innovation in Welding Technology. His company N.A. Tech., has been twice cited in the Navy Small Business Success Stories Publication.

COMPARISON OF SAW AND TANDEM ELECTRODE GAS SHIELDED PROCESSES FOR PRODUCTIVITY, AND DISTORTION IN BUTT JOINTS FOR THIN PANEL STRUCTURES

Ken Johnson, Vigor Shipyard Seattle Washington

Mike Weaver, CD-adapco

Reduction of heat input and distortion on thin panel structures reduces rework and improves product quality as well as improves shipyard productivity and efficiency through higher welding travel speeds and reduced energy consumption.

This presentation will review the results of the subject project, NSRP SP7 Panel Project, ATI Project No: 2010-305. This project developed procedures for 6mm and 12mm butt joints on S1 carbon steels in a panel line setting. These welds were single pass, full penetration butt joints, welded from one side.

Included will be descriptions of the process, testing facility, the experience with welding procedure development, the welding procedures developed, and comparisons with current shipyard panel line submerged arc welding procedures for heat input and distortion. Also presented will be thermal measurements and simulation of the heat evolution in the welded plates toward a distortion simulation.

Ken Johnson

Weld Engineering

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Mr. Johnson has thirty years of welding experience in the shipbuilding industry: Commercial Ship Repair, New Construction, US Navy Construction and Repair. Present position, Weld Engineer.

Mr. Johnson is a member of the American Welding Society (AWS) Technical Activities Committee; He is the Chairman of the AWS D3 Committee for Welding in Marine Construction. He is AWS District Director for District 19, Member of the NSRP-SP7 National Shipbuilding Research Panel for Welding Technology and the night program instructor at Renton Technical College for all Metal Trades, 1995 to present.

Michael Weaver

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Mr. Weaver works in development of engineering software tools for fluid dynamics, heat transfer, and fluid-structure interaction within CD-adapco's CAE tools: STAR-CCM+ and STAR-CD. Prior to beginning this position in 2004, Mr Weaver worked extensively in the field of weld design and analysis, finite element analysis, welding fabrication quality assurance, fitness for purpose studies, reliability analysis, and material testing with Weaver Engineering for twelve years.

Mr. Weaver holds a BS Degree in Mechanical Engineering from Oregon State University and an Masters of Business Administration from the University of Washington. He is a licensed professional engineer. He received the A.F. Davis Silver Metal from the American Welding Society in 2000, and has been active on his local AWS section board for 16 years.

FIRST TIME QUALITY, NDE, AND FITNESS FOR SERVICE TECHNOLOGY FOR FRICTION STIR WELDING AND MANUFACTURING ALUMINUM SHIP PANELS

James R. Dydo, GatekeySM Engineering, Inc.

Dennis Fanguy, Bollinger Shipyards, Inc.

Friction Stir Welding (FSW) offers significant improvements in mechanical properties of ship structure, including reduced distortion, while offering the ability to reduce manufacturing costs compared to arc welding processes. FSW is becoming more widely used for aluminum applications on a variety of Navy platforms. Recent experience has surfaced a number of manufacturing and quality opportunities which have inhibited wide scale deployment and reduced affordability of the process. Initial analysis indicates the current quality problems are the result of shortcomings in process knowledge and in the quality assurance methods themselves. Inadequate knowledge of the effect of process variables, inadequate process controls, the need for standardized tools and fixtures, lack of knowledge of NDE limitations and a lack of understanding of the significance of flaws have all contributed to the issue.

The overall objective of this project is to assure 'first time' weld quality by developing standardized 'best practice' methods and procedures for FSW of aluminum ship structures. The full scope of potential defects is currently being evaluated by varying the degree of severity of induced flaws and then evaluating the welded structure by a variety of inspection methods. The goal of the project is to define acceptable limits of essential elements and to determine the best and most cost-effective ways of identifying these defects.

In this progress report, an evaluation of current practices and requirements is presented. In addition, the overall project objectives will be described in greater detail.

James R. Dydo

Principal Engineer

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Dr. James R. Dydo has extensive experience in analyzing, designing and developing systems for a range of industrial applications in the following industries: oil, petrochemical, automotive and shipbuilding. He is Founder and President of GatekeySM Engineering, Inc. an engineering services company. Formerly, he was a Principal at Advanced Computational and Engineering Services, LLC. At the Edison Welding Institute, Dr. Dydo led technology developments in computational simulations of advanced welding processes. At SEA, Inc. he performed design and failure investigations. At Chevron, USA he was in charge of design and installation of processing equipment for petrochemical and refining plants. Dr. Dydo is a Licensed Professional Engineer in the States of Ohio and California.

Dr. Dydo has wide-ranging experience in advanced finite element analysis and design of structural components. His areas of technical expertise are as follows:

- Structural engineering analysis
- Design of engineering structures
- Fitness for service analysis
- Analysis of structural distortion and
- Development of constitutive material models

Dr. Dydo has utilized his expertise to develop and apply advanced engineering technologies in which computational simulations are employed to provide practical and cost effective solutions. He has solved a range of critical manufacturing and process problems in the Shipbuilding and Heavy Equipment, Automotive and Medical industries, utilizing a variety of modeling techniques. Additionally, Dr. Dydo has developed technology that has been applied to introduction of new products with wider commercial applications. He designed an innovative method for reducing welding induced distortion. He has redesigned a range of components in order to achieve improved operation and extended operational capability, through analyses of critical structural components and manufacturing processes. He has provided professional consulting services to several hundred industrial firms and organizations.

Dr. Dydo has worked extensively with worldwide academic and industrial research and development institutions, in order to develop technology and identify unique applications for new technological developments.

Dennis Fanguy

Vice President of Quality Management Systems

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Dennis is a 1984 graduate from the University of New Orleans with a Bachelor of Science degree in Electrical Engineering. He is currently the Vice President of Quality Management System for Bollinger Shipyards in Lockport, LA.

Mr. Fanguy has served as the Chairman of the Bayou Chapter of the American Society of Naval Engineering and is a member of the Society of Naval Architects and Marine Engineers. Dennis is also active in many other professional organizations such as the Offshore Marine Services Association, Institute of Electrical and Electronics Engineers Standard 45 cable committee, American Bureau of Shipping under 90M Rule Development Committee, Nicholls State University Manufacturing technology curriculum advisor committee, while volunteering on various subcommittees for the National Offshore Safety Advisory Committee.

During Dennis' 27 years at Bollinger Shipyards, he has held the positions Chief Electrical Engineer, Chief Project Engineer, Director of Program Management, Chief Engineer, Vice President of Engineering and finally Vice President of Quality Management System. He has been responsible for the Design, Integration and Testing of all new construction activities at Bollinger Shipyards, not the least of which include 77 each 87' Coastal Patrol Boats for the U.S. Coast Guard, 14 each 52M Patrol Vessels for the Navy and 49 each 33M Patrol Boats for the U.S. Coast Guard, in addition to various commercial vessels.

EVALUATION OF CURRENT FILLET WELD SIZING CRITERIA

Pingsha Dong, University of New Orleans

T.D. Huang, Ph.D., P.E., HII-Ingalls Shipbuilding

Lee Kvidahl, HII-Ingalls Shipbuilding

Dennis Fanguy, Bollinger Shipyards

Over the past decade, the production ratio of thin-steel (10 mm or less) to thick-plate structures for some vessels built at HII Ingalls has risen up to 90% per ship. However, a minimum fillet weld leg size of 5mm developed in 1980s is used today in some of the shipbuilding specifications regardless of plate thicknesses. Furthermore, shipyard welders tend to over weld since shop-floor QA inspection normally disqualifies under-sized welds while over-size welds are mostly accepted. Through a number of investigations, fillet welds requiring a minimum leg size of 5mm often have an average leg size of 8mm, resulting in more than double the heat input, resulting in about the doubling of weld shrinkage force for developing buckling distortions. In a recently funded NSRP panel project, recent developments in quantitative weld sizing are being evaluated in conjunction with experimental testing to evaluate the implication of the legacy weld sizing criteria. If validated through a limited testing, some of the recent shear strength equations can then be evaluated for a broader application of materials and structural applications.

In this presentation, we first provide a summary of the basis of legacy weld sizing rules such as those by MIL-1628 and Krumpfen method. The new shear strength equations are then presented. Some existing shear strength test data are then analyzed by using both conventional and the shear strength formula. A test plan is then presented for validating the applicability of the new shear strength formula.

Pingsha Dong, Ph.D.
***Professor and Northrop Grumman Endowed Chair in
Shipbuilding***

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Dr. Dong has over 20 years of R&D and industrial consulting experiences in the areas of design and analysis of welded structures, residual stress and distortion modeling and control, fatigue and fracture control methodologies. He has published over 180 peer-reviewed papers in archive journals and major international conferences. In addition to research and development activities in the above areas, he teaches Ship Production, Ship Strength Analysis, and Finite Element Procedures for Offshore Structures.

T.D. Huang, Ph.D., P.E.
Engineering Manager

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T.D. Huang has pioneered numerous ship design and construction process technique for modern lightweight ship structures. Dr. Huang has more than 28 years experiences in technical design and ship construction and has developed systems of the best practices for ship design and manufacturing technology. He received the Society of Naval Architects and Marine Engineers Elmer Hann Award in November 2007 on recognizing the technical contributions for a report focused on ship distortion control and mitigation. In September, 2010, Dr. Huang received the U.S. Department of Defense Value Engineering Award for DDG1000 Surface Ship Affordability and Manufacturing Technology Program and was credited for improving processes and fabrication efficiencies in ship design and construction technology. The cost avoidance from the joint efforts with his colleague was estimated at \$46M per ship. Dr. Huang received a B.S. in Civil Engineering from Chunghsing University, an M.S. and a Ph.D. in Structural Engineering, from Ohio State and Tulane University, respectively.

WELDING TECHNOLOGY

Discussing methods and processes to improve the technology of welding, cutting, forming and burning as it pertains to and is applied to the shipbuilding/repair industry and its customers.

Lee Kvidahl

Welding Technology Panel Chair

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Lee Kvidahl is the Manager of Welding Engineering at Ingalls Shipbuilding in Pascagoula, Mississippi, where he has worked for more than 35 years. Kvidahl's responsibilities include: investigating and implementing new manufacturing production methods to ensure productivity improvements; training craft and management in welding, materials and inspection technology; managing internally and externally funded research and development programs; justifying and monitoring capital and operation budgets; assisting in developing and preparing proposals for research and development; and providing metallurgical engineering support for the shipyard. Kvidahl has collaborated on the publication of six books in the areas of metals and welding. He is a past president of the American Welding Society. Kvidahl received a bachelor's degree in Engineering from Stevens Institute of Technology.

Dennis Fanguy

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DEVELOPMENT OF DESIGN-FOR-PRODUCTION TRAINING MODULE

*T.D. Huang, Ph.D., P.E., HII-Ingalls Shipbuilding
Pingsha Dong, University of New Orleans*

An increased use of higher strength steels has been incorporated in ship design to leverage lighter weight required by using thinner steel to accomplish design and operation objectives. Thin steels are more susceptible to distortion from numerous sources of shipbuilding production processes, because of a lack of guidance on thin steel design requirements for producibility, assembly sequences and welding processes are not designed for thinner steels, and improper lifting, handling, and erection processes.

An NSRP SPPT panel project has recently been initiated to develop a design-for-production training module by incorporating some of the recent findings resulted from a number of ONR funded programs. The target audience of such a training module will include design and production engineers and shop floor craftsmen to cover practical distortion management and mitigation techniques in shipbuilding to reduce rework and improve quality.

This presentation will provide a summary of the developments to date:

- Distortion training module structure
- How residual stresses and distortions in the ship panel structures are generated, specifically:
 - 1) Sources for residual stress and distortions in lightweight steel structures
 - 2) Material conditions – plates and shapes
 - 3) Material processing, e.g., blasting, cutting, straightening, etc
 - 4) How to differentiate buckling distortions from other distortions

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Dr. Dong has over 20 years of R&D and industrial consulting experiences in the areas of design and analysis of welded structures, residual stress and distortion modeling and control, fatigue and fracture control methodologies. He has published over 180 peer-reviewed papers in archive journals and major international conferences. In addition to research and development activities in the above areas, he teaches Ship Production, Ship Strength Analysis, and Finite Element Procedures for Offshore Structures.

ELIMINATION OF OVERWELDING TO REDUCE DISTORTION IN NAVAL SHIPBUILDING APPLICATIONS

T.D. Huang, Ph.D., P.E., HII-Ingalls Shipbuilding

In recent years, ship designers have been forced to incorporate lighter, thinner steel structures to reduce topside weight, improve fuel economy, and enhance mission capacity. Over the past decade, the production ratio of thin-steel (10 mm or less) to thick-plate structures for some vessels built at HII Ingalls has risen up to 90%. Improvements to shipbuilding facilities, process technology, and NAVSEA and ABS manufacturing practices have not kept pace with the rate of change in ship design. This results in widespread overwelding (greater weld volume than necessary for thin plate fillet welds). Severe plate buckling distortion in naval vessels has been attributed to these oversized welds in thin plate ship structures. Thirty percent (30%) of shipbuilding fabrication costs can be attributed to rework to reduce distortion. Overwelding, which applies to practically every shipyard (both Naval and commercial), results in increased residual stresses, increased distortion and higher costs.

This project, which builds upon the results of previous ONR projects, is divided into two phases, in which HII-Ingalls will fabricate welds for evaluation. Phase I involves subjecting various plate/fillet weld size combinations for two shipyard steels to tensile, transverse and longitudinal shear, fatigue and dynamic testing. In parallel with this testing, UNO will perform numerical analyses as an alternative methodology for sizing fillet welds based on the weld fatigue and fracture capacity. NAVSEA approval will be obtained after each major task before proceeding with the next. The Phase I test plan has been approved by NAVSEA and the IPT and has begun execution.

Phase II, a scaled application prototype weldment, will initiate after a thorough review of the Phase I weld evaluation. HII-Ingalls will manufacture the scaled weldment based on recommendations and information gathered in Phase I. Each panel will be evaluated for distortion by LIDAR Photogrammetry, and compared to a similar prototype manufactured in accordance with the current shipyard practices.

Phase II also includes recommending procedures and specification revisions for NAVSEA, ABS, and MIL-STD documents. This will support implementation on DDG-51, LHA and National Security Cutter (U.S. Coast Guard) as well as future naval and commercial vessels. The approvals obtained through this project can be made available to various programs and shipyards to implement thin plate welding improvements such as less distortion, cost reduction, faster processing times, reduced rework, and reduced environmental weld fumes.

Core Team:

Applied Thermal Sciences, Inc. (ATS)	University of Maine (UMaine)
Concurrent Technologies Corporation (CTC)	Naval Surface Warfare Center – Carderock Div.
NAVSEA 05	DDL OMNI
University of New Orleans (UNO)	

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T.D. Huang has pioneered numerous ship design and construction process technique for modern lightweight ship structures. Dr. Huang has more than 28 years experiences in technical design and ship construction and has developed systems of the best practices for ship design and manufacturing technology. He received the Society of Naval Architects and Marine Engineers Elmer Hann Award in November 2007 on recognizing the technical contributions for a report focused on ship distortion control and mitigation. In September, 2010, Dr. Huang received the U.S. Department of Defense Value Engineering Award for DDG1000 Surface Ship Affordability and Manufacturing Technology Program and was credited for improving processes and fabrication efficiencies in ship design and construction technology. The cost avoidance from the joint efforts with his colleague was estimated at \$46M per ship. Dr. Huang received a B.S. in Civil Engineering from Chunghsing University, an M.S. and a Ph.D. in Structural Engineering, from Ohio State and Tulane University, respectively.

Infrastructure & Support Technical Track

Tuesday, October 4, 2011

Jack Shea –Track Leader

Risk Management Panel Chair

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Jack Shea is Government Liaison at Electric Boat Corporation. Shea is actively involved in government affairs and business legislation at both the state and federal levels. He is Chairman of the Connecticut Business & Industry Associations' (CBIA) Workers' Compensation Council and is a registered lobbyist for Electric Boat at the Connecticut General Assembly. During his 28 year career at EB, he has been involved in various workers' compensation programs and safety initiatives to control costs and reduce on-the-job injuries. Shea received his bachelor's degree from the University of New England and a master's degree in Human Resource Management from Rensselaer Polytechnic Institute.

OSHA SUBPART F – LOCKOUT/TAG OUT FINAL RULE

Laura Mathisen, BIW – Safety & Health Advisory Committee Co-Chair

The presenter will give a 30 minute overview of the current status of OSHA's Subpart F – Lockout/Tag out Final Rule

Presentation Objectives:

- 1) To provide participants with background information on the proposed Rule and its current implementation status.
- 2) Review OSHA's determination that a temporary delay in enforcement of the final rule provisions on lighting, motor vehicle safety, and lockout/tags plus was appropriate.
- 3) Discuss potential impact on the private shipbuilding sector if Rule is implemented as written as part of the General Working Conditions in Shipyard Employment.

Laura Mathisen

Director – Environmental, Health & Safety

Bath Iron Works

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Laura Mathisen serves as Director of Environmental, Health and Safety at Bath Iron Works (BIW). She has been employed at BIW since 1978. During her tenure she has worked as a Shipfitter, Insulator, Designer and Planner. She was asked to join the safety team as Manager in 1989.

Her time spent in Manufacturing has served her well in understanding the shipbuilding process, the needs of the worker and methods necessary to provide a safe and healthful work environment.

Laura studied Occupational Health and Safety at Central Maine College, and served in the U.S. Air Force. She serves as Chair on the General Dynamics Ergonomics Subcommittee and as Co-Chair of NSRP's Safety & Health Advisory Committee (SHAC).

NEWPORT NEWS SHIPBUILDING APPRENTICE SCHOOL

Everett Jordan, Newport News Shipbuilding

The founding principles of The Apprentice School – craftsmanship, scholarship and leadership -- remain intact from 1919 when company President Homer L. Ferguson signed executive order No. 24, which formalized the apprentice experience at Newport News Shipbuilding. Related academic instruction on paid company time, on-the-job training with supervised instruction, and organized, extracurricular activities were established as the key program components, and remain so today. Challenged by constant demands in the ever-changing shipbuilding environment, The Apprentice School, 92 years later, is adapting to meet the complexities associated with customer requirements, the competitive nature of shipbuilding, and the necessity to develop a new generation of shipbuilders.

The purpose of this presentation is to provide a glimpse into the modern-day apprenticeship at Newport News Shipbuilding and to reinforce the value of successful apprenticeships in heavy manufacturing. With a student body ranging from 750-800 students, the program is adjusting continuously to be responsive to production needs while developing the leaders of our company for decades to come.

Everett Jordan

Director Education, The Apprentice School

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Began career in 1973, as a shipfitter apprentice at The Apprentice School, located at Newport News Shipbuilding, Newport News Virginia. Career focused on all structural phases of nuclear submarines, nuclear aircraft carriers and commercial ship construction. Prior to becoming the eighth director of the 92 year old Apprentice School, he served the previous 13 years as Trade Director of Shipfitting, Welding and Dimensional Control.

Mr. Jordan graduated from The Apprentice School in 1977. He received a BS Degree in Business Administration from Saint Leo University and a Master of Arts in Education and Human Development from The George Washington University.

“BEST OF THE BEST PRACTICES” FOR SHIPYARD INDUSTRY WORKERS’ COMPENSATION

Barry Thompson, Risk Acuity LL

The presenter will give a 30 minute overview of the recently completed Panel Project “Best of the Best” Practices for Shipyard Industry Workers’ Compensation.

Project Objectives:

1. To create a comprehensive checklist of Shipyard Industry Best Practices for U.S. Shipbuilding use, intended to be a legacy document with long-lasting application and the ability to be updated.
2. To identify “Best of the Best” applications at the participating studied shipyards that support the comprehensive set of “Best Practices” and indicate live examples of successful application in various shipyard operating contexts and risk-financing situations.
3. To give shipyards a tool to improve their workers’ compensation programs by delivering a self-assessment format of the comprehensive checklist and thus the perspective to analyze opportunities for self-improvement via other shipyard’s successful “Best of the Best” applications.

Deliverable:

The deliverable report is a comprehensive matrix format of all categorized “General Standards” and “Best of the Best” practice items as well as the intended “Implication and Impact” from each item. Executive Summary is posted on the NSRP web site, and report is available through Advanced Technology International (ATI).

Barry E. Thompson

President

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Mr. Thompson founded Risk Acuity, LLC in February of 2002. He has vast experience in Property and Casualty claims and general risk management consulting. Prior history includes five years as a founding member and National Practice Co-Leader of the Deloitte & Touche Claims and Disability Management Services Unit, and 4-years with Aon as Vice President and Managing Consultant of the Aon Management Institute. Other history includes Marsh & McLennan as a Claims Account Representative, Air Express International as Cargo Claims Manager, and Liberty Mutual Insurance Company as a Senior Adjuster in 1984.

Mr. Thompson's consulting experience includes insurers and related service providers, manufacturing, shipyards, transportation, school board associations, construction, mining, airline, health care, contract labor agencies, medical equipment manufacturers, retail, food service, public entities, large insurance carriers and funds, municipalities and freight/cargo carriers. Public Entity Experience includes audit and/or process-implementation programs for the State of CT, Suffolk County NY, State Insurance Fund of Puerto Rico, Maryland Injured Worker's Fund and the Canadian WC Insurance Boards of Alberta, Saskatchewan, and Ontario.

Barry's particular area of expertise is Workers' Compensation, including claim operations and service programs, audit programs, accelerated claim closure programs, oversight, integrated (occupational and non-occupational) disability management, "attractive-risk" renewal strategies, related vendor alignment and value measurement, self-administration conversion, risk allocation methods, litigation management, training program design and facilitation, fraud detection and abatement programs, and accountability enhancement programs that measure the impact of management and supervisory activities within the scope of a claims/risk management program.

Mr. Thompson's client consulting work has been featured in the Bureau of National Affairs (BNA) newsletter, Managed Care News, Rimscope, Business Insurance and other publications. He has authored feature articles for trade publications including Risk & Insurance, Claims and The Journal of Workers Compensation. In March 2005 his article on WC software appeared in a Businessweek magazine special technology section. He has been quoted in The Los Angeles Times, Business Insurance, National Underwriter, Kiplingers, and Controller magazine. As a speaker, Mr. Thompson has addressed many industry organizations including the American Society of Safety Engineers, the Machine Manufacturers Association, the Connecticut Workers' Compensation Legislative Update, REBEX conference, RIMS conference, E&S Lines Claims Convention, World Research Group Seminar on Integrated Disability Management, MAPI, Benefits Management Forum and Expo, National Shipbuilding Research Program WC/Safety Conference, World Research Group Predictive modeling conference, and the International Business Forum & Business Insurance Magazine WC Conference for which Mr. Thompson served on the Advisory Board.

Mr. Thompson has a BS in Communications from the Newhouse School at Syracuse University. He has held Property and Casualty Brokerage licenses in Connecticut and New York, and has held an All-Lines Adjusting License and a Certified Insurance Consultant License in Connecticut.

NATIONAL WORKFORCE CONSORTIUM FOR SHIPBUILDING AND REPAIR – COLLABORATING FOR GLOBAL COMPETITIVENESS

Dr. Alok K. Verma, Old Dominion University

A national consortium for the workforce in shipbuilding and repair is proposed to promote and initiate activities to sustain the industry and to help retain global competitiveness. The proposed model is based upon successful consortiums models in other industries. The partners in this proposal include regional consortiums, private and government shipyards, professional trade organizations and two and four year educational institutions.

This project is very timely in light of the current economic slowdown coupled with workforce issues like “aging” of the workforce, high attrition rates, lack of basic technical education, career transition processes, lack of student’s interest in STEM careers and attitudes towards vocational education. The National Workforce Consortium will improve the global competitiveness of the industry by encouraging standardization in training programs which will facilitate sharing of workforce between the industry partners, improve skill set of workforce by better training programs. The project will also establish long term pipeline of qualified workers by engaging K-12 students in STEM careers in shipbuilding and repair. Project NWCP builds upon the previously funded NSRP projects to maximize benefits for the shipbuilding industry and ultimately for the Navy.

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Dr. Alok K. Verma is Ray Ferrari Professor and Director of the Lean Institute at Old Dominion University. He also serves as the President of the International Society of Agile Manufacturing and as the chief editor of the International Journal of Agile Manufacturing. Alok received his B.S. in Aeronautical Engineering from IIT Kanpur, MS in Engineering Mechanics and PhD in Mechanical Engineering from ODU. Prof. Verma is a licensed professional engineer in the state of Virginia, a certified manufacturing engineer and has certifications in Lean Manufacturing and Six Sigma. He has organized several international conferences as General Chair, including ICAM-2006 and ICAM-1999 and also serves as associate editor for two International Journals. His scholarly publications include 27 journal papers and 49 papers in conference proceedings. Dr. Verma has developed and delivered training program in Lean Enterprise & Design for Manufacturing for Northrop Grumman Newport News, STIHL and several other companies in U.S. He has developed simulation based training programs for shipbuilding and repair industry under a grant from the National Shipbuilding Research Program (NSRP). He is well known internationally and has been invited to deliver keynote addresses at several national and international conferences on Lean/Agile manufacturing. Dr. Verma has received the Regional Alumni Award for Excellence for contribution to Lean Manufacturing research, the International Education Award at ODU and Ben Sparks Medal by ASME. He is active in ASME, ASEE, SME, IIE and SNAME. Dr. Verma continues to serve the Hampton Roads community in various leadership positions.

SOCIAL MEDIA AND CLAIMS MANAGMENT

Liam Murray, DigiStream Investigations

What is your employee saying about your company, your management, your product, their injury? The world of Social Media has introduced both challenges and opportunities for risk management and claims professionals. Facebook, MySpace, Twitter and a host of additional online forums have opened the door for open public communication among friends and colleagues. Understanding how to navigate and harness this new digital world is of paramount importance in the field of insurance claims management.

The purpose of this presentation is to help claims professionals understand the world of social media and the tools available to help in the claims management decision making. Whether you intend to investigate on your own or just want to ensure you understand and maximize the results of a vendor, this presentation will be beneficial.

Liam Murray
General Manager, Background Investigations

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Career began as an SIU field investigator focused primarily on catastrophic and fatal claim investigations. Mr. Murray is now General Manager of the Background and SIU Divisions for DigiStream Investigations, a national investigative firm. Prior to joining DigiStream Liam was Supervisor of Field Investigations for the GlobalOptions Group, overseeing a team of field investigators in the Northeastern U.S.

Mr. Murray received both BA and MS Degrees in Criminology from Villanova University. He is a certified Workers Compensation specialist as well as a licensed private investigator in the State of New Jersey.

IMPLEMENTATION OF EMISSIONS FACTORS

Joe Jackens, CTC

As a proactive measure to assist with the in-progress update to EPA emissions regulation, this effort conducted weld fume sampling and analysis of five electrode/weld process pairs based on their volume of use in the shipbuilding industry, lack of high quality emission factors and their potential for emitting Hexavalent Chromium and Manganese. The results showed that the current EPA emission factor data sets for the analyzed combinations were significantly higher than actual measured emissions. Additionally, the Environmental Panel responded to the Environmental Protection Agency's request for comments on a proposed rule for Shipbuilding Emissions Standards. They provided culmination of new and existing technical comments on welding emission factors based on data generated by the previous Emissions Factors panel projects, and comments regarding how the shipbuilding industry differs from other industries.

Joe Jackens
Environmental Analyst

Concurrent Technologies Corporation (CTC)

Mr. Jackens is an Environmental Analyst at Concurrent Technologies Corporation (CTC). He plays a key role in the technical task development for a variety of projects related to environmental, safety, and occupational health. The main focus of his work includes developing sampling strategies to collect and analyze environmental data. Currently the majority of his work is focused on quantify emissions from various military and industrial activities.

Mr. Jackens holds a Bachelor of Science degree in Environmental Health Science, and is currently continuing additional graduate studies toward a Master of Science degree in Safety Sciences.

Infrastructure & Support Technical Track

Wednesday, October 5, 2011

Jack Shea –Track Leader

Risk Management Panel Chair

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Jack Shea is Government Liaison at Electric Boat Corporation. Shea is actively involved in government affairs and business legislation at both the state and federal levels. He is Chairman of the Connecticut Business & Industry Associations' (CBIA) Workers' Compensation Council and is a registered lobbyist for Electric Boat at the Connecticut General Assembly. During his 28 year career at EB, he has been involved in various workers' compensation programs and safety initiatives to control costs and reduce on-the-job injuries. Shea received his bachelor's degree from the University of New England and a master's degree in Human Resource Management from Rensselaer Polytechnic Institute.

PREVENTING SHIPYARD INJURIES FROM CONTACT WITH OBJECTS & EQUIPMENT

Teresa Preston, EHS Made Easy

The presenter will give a 30 minute overview of the 2010 Panel Project: Analysis of Injuries & Fatalities in Shipbuilding Industry Associated with “Struck By”, Struck Against” or “Caught In” Incidents.

Problem

Injuries and fatalities associated with “struck by”, struck against” or “caught in” incidents account for 30% of overall injuries in shipyards and 40-60% of fatalities in shipyards as examined for years 2005-2008. With injury costs rising, reducing these injuries will result in significant savings to the industry.

Proposed Solution:

The goal of the project team was to examine the numbers and mechanisms of “contact with” injuries throughout the industry, with particular focus on shipyards. The team would then find or develop current shipyard best practices to reduce injuries and associated hazards categorized as resulting from contact with objects or equipment. Finally, the team would develop a product to assist the shipbuilding and ship repair industry in instituting Best Practices to reduce these injuries.

Outcome:

An industry-specific Best Practices Guide was produced and is available for distribution through Advanced Technology International (ATI).

Teresa Preston

Owner

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Teresa Preston is the owner of EHS Made Easy, LLC. After graduating in the first class of females at the US Merchant Marine Academy, she spent the first eleven years of her career as an oceangoing ship's officer. She then worked in both government and private industry until starting her own company.

She has extensive experience in Environmental Management, Pollution Prevention, RCRA site closures, Safety and Health Compliance Training, and integration of EHS and Lean Manufacturing.

She was appointed by the Secretary of Labor to the national Maritime Advisory Committee on Occupational Safety and Health (MACOSH) three times to represent shipyard management, and was instrumental in developing the OSHA Maritime Outreach training courses.

CREATING WORKFORCE FOR MARINE INDUSTRY – MARINETECH AND MARINE CAREER TECH PROJECTS

Dr. Alok K. Verma, Old Dominion University

During the past several years, workforce issues have emerged as a dominant concern for shipbuilding and repair companies in United States. Related issues include concern about “aging” of the workforce, lack of basic technical education, career transition processes, recruitment and training of the new workforce, retention and training of the incumbent workforce, image of the industry, and lack of career information for middle and high school students. The paper discusses two projects funded by the National Science Foundation (NSF) to engage school and community college students in Marine and Maritime Careers. MarineTech project is in the third year of implementation and Marine Career Tech project is in its second year of implementation.

The MarineTech project has successfully developed and integrated project based learning activities within the middle and high school curriculum. The project demonstrates that project based learning activities can engage students and improve their learning and retention. Student learning is enhanced by group activities and competition using marine Kits and Sea Perch. Teacher’s comments from workshops indicate that teachers found these learning experiences enjoyable. Participating teachers believe that the activities are well designed and engage students in classroom.

Marine Career Tech Project has trained community college faculty in three shipbuilding regions in the use of four new instructional modules related to shipbuilding and marine industry. The presentation will discuss the Shipbuilding, Repair and Maritime Career Day Events organized to increase career awareness among middle and high school students.

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Dr. Alok K. Verma is Ray Ferrari Professor and Director of the Lean Institute at Old Dominion University. He also serves as the President of the International Society of Agile Manufacturing and as the chief editor of the International Journal of Agile Manufacturing. Alok received his B.S. in Aeronautical Engineering from IIT Kanpur, MS in Engineering Mechanics and PhD in Mechanical Engineering from ODU. Prof. Verma is a licensed professional engineer in the state of Virginia, a certified manufacturing engineer and has certifications in Lean Manufacturing and Six Sigma. He has organized several international conferences as General Chair, including ICAM-2006 and ICAM-1999 and also serves as associate editor for two International Journals. His scholarly publications include 27 journal papers and 49 papers in conference proceedings. Dr. Verma has developed and delivered training program in Lean Enterprise & Design for Manufacturing for Northrop Grumman Newport News, STIHL and several other companies in U.S. He has developed simulation based training programs for shipbuilding and repair industry under a grant from the National Shipbuilding Research Program (NSRP). He is well known internationally and has been invited to deliver keynote addresses at several national and international conferences on Lean/Agile manufacturing. Dr. Verma has received the Regional Alumni Award for Excellence for contribution to Lean Manufacturing research, the International Education Award at ODU and Ben Sparks Medal by ASME. He is active in ASME, ASEE, SME, IIE and SNAME. Dr. Verma continues to serve the Hampton Roads community in various leadership positions.

INDUSTRIAL SHIPBUILDING TRAINING USING SERIOUS GAMING TECHNOLOGY

Rex Wallen, Newport News Shipbuilding

Justin Wright, Newport News Shipbuilding

Rachel Biehl, Newport News Shipbuilding

Shipbuilding is a unique skill that requires dedication and training in a wide array of disciplines. The industry presents one of the most dangerous environments to industrial workers and safety is always a concern and a top priority. In order to build quality ships on time and on budget, a capability must exist to effectively train a large number of shipbuilders with minimal impact to normal operations and without risk to other employees and the environment. Serious Gaming enables the use of low cost and readily available gaming technologies to provide immersive, repeatable and interactive training applications. Utilizing serious gaming in shipbuilding has the potential to improve cost savings, reduce risk, and increase training capability by reinforcing learning objectives in a non-traditional, virtual setting.

The purpose of this presentation is to discuss the development of a serious gaming capability which can be used to increase statistically-based performance and evaluation methods for industrial training. The use of these methods provides a return that is materialized in reduction in cost through an increase in productivity and preventive behavior.

Rex A. Wallen
Software Developer

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Rex has over 30 years experience improving ship construction processes and 10 years engineering and management experience in the automotive and construction equipment industries. He has participated in the development of simulation based management tools for Nuclear Powered Aircraft Carriers and various trade shops supporting the new construction of surface ships and Nuclear Powered Submarines. Rex served as chairman of the NSRP Industrial Engineering Panel (SP8) for two years. He is currently involved in the development of simulation based training tools.

Skills include proficiency in engineering and manufacturing management, lean and six-sigma process improvement techniques, teaming and group facilitation, computer simulation, and most MS Office software.

Rex has presented at several shipbuilding conferences and published papers in shipbuilding journals.

Justin Wright

Software Developer

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Justin Wright is employed at Newport News Shipbuilding in the Modeling and Simulation group where he develops code in support of a model used to evaluate performance parameters of the next generation nuclear aircraft carrier, the Gerald R. Ford. His experience with Serious Gaming includes conducting research and development projects with open source, government use, and commercial off the shelf gaming engines and support technologies. He was previously employed as an Electrical Test Engineer for Newport News Shipbuilding conducting electrical testing for the Overhaul and Refueling of the Carl Vinson (CVN70).

Mr. Wright received a BS Degree in Electrical Engineering from North Carolina A&T State University.

Rachel Biehl

Software Developer

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Rachel Biehl is part of the Modeling, Simulation, and Analysis (MS&A) group at Newport News Shipbuilding where she develops simulation models aimed at evaluating and improving the performance of shipyard operations. Prior to her current occupation at Newport News, Rachel worked as mechanic on new construction Virginia Class Submarines (VCS) and Nimitz class aircraft carriers. Realizing the potential benefits of gaming in shipbuilding, an industry in which employee training constitutes a large part of the culture, Rachel began conducting research in the application of serious gaming in a number of industries, including manufacturing. Her experience in the field also includes development projects with open source, government use, and commercial off the shelf gaming engines and support technologies.

Rachel also completed a modeling and simulation apprenticeship at Newport News Shipbuilding and received an AS Degree in Engineering from Tidewater Community College.

Business Processes & Information Systems Technical Track

Tuesday, October 4, 2011

Ken Clarke – Track Leader
Business Processes Panel Chair

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Mr. Clarke is a 40+ year employee of Newport News Shipbuilding and has held management positions in Aircraft Carrier New Construction and Overhaul Nuclear Engineering, Waterfront Trades Administration, Submarine Overhaul Program Office, International Commercial Ship Marketing, Naval Business Technology Marketing, Human Resources, Supply Chain Management and Program Production Engineering Office. Mr. Clarke is certified in Lean Manufacturing by the Virginia Manufacturing Extension Program. He is a graduate of the Newport News Shipbuilding Apprentice School in Nuclear Engineering Design; has a BS degree in Business Administration from Christopher Newport University and a Master's degree in Business Administration from Old Dominion University.

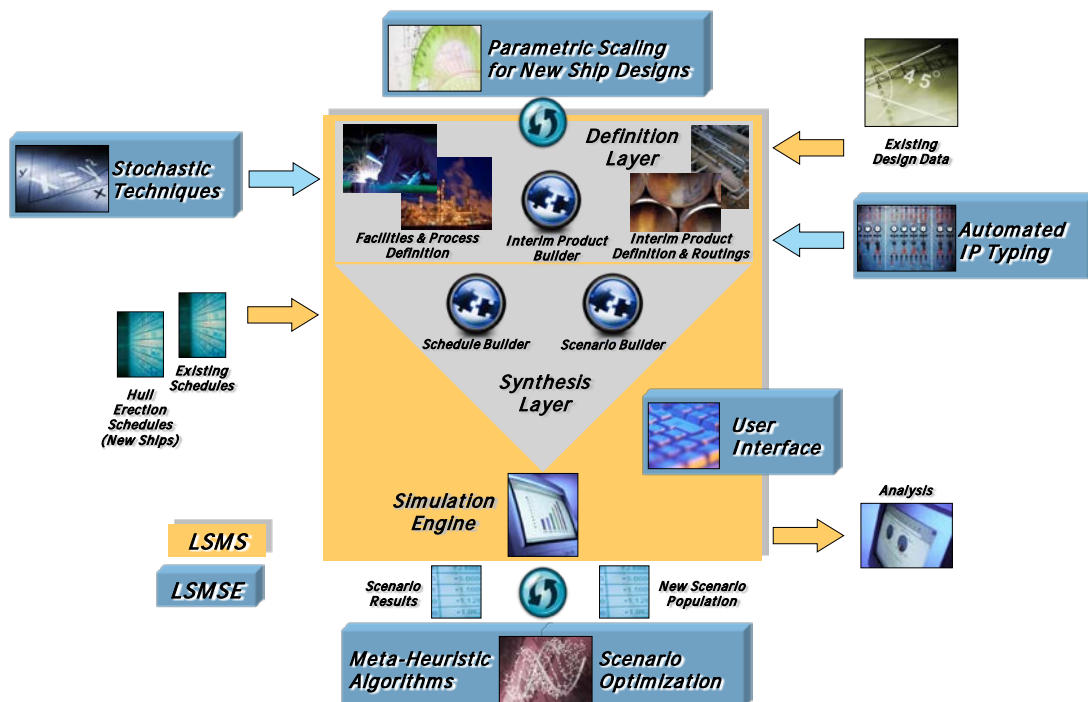
LARGE SCALE COMPUTER SIMULATION MODELING SYSTEM ENHANCEMENTS (LSMSE)

Jeff Schaedig, General Dynamics - NASSCO

The Large Scale Simulation Modeling System Enhancements project (LSMSe) builds on the LSMS system developed and implemented at NASSCO. The LSMS simulates both current and future production workloads through a shipyard-wide manufacturing simulation model, providing the ability to identify production bottlenecks, and enabling the user to quickly identify improved production plans and necessary facility/resource requirements.

Scheduled to complete in December 2011, the following additional capabilities are planned to be developed and implemented during the project:

- Optimization tools to automate the search for best case scenarios
- Stochastic techniques to include real world parameter variability
- Rule sets and software tools for automated assembly definition and typing
- Software tools for work content definition of new ship types prior to detail design
- Enhanced user interfaces for facility modeling and assembly definition capabilities
- Enhanced database management techniques for new capabilities



Jeff Schaedig

Industrial Engineering Specialist

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Jeff is an Industrial Engineering Specialist and the Technical Project Manager for the LSMSe project. Since joining NASSCO in 1995 he has held key positions in Engineering, Planning, and Production. The focus of his career has been the introduction and development of new technologies into these three areas. Although many of the projects have been computer-based in nature, Jeff has spent a significant amount of time on the shop floor and deck plates integrating the developed technologies into a real world environment. Jeff graduated from the University of Michigan with a Bachelors of Science Degree in Naval Architecture and Marine Engineering and has over 12 years of experience in manufacturing simulation modeling.

COMMON PARTS CATALOG (CPC) ENHANCEMENTS

Edward Mueller, Electric Boat

U.S. Shipyard's Common Parts Catalog (CPC) employs standard data definition protocols and interfaces a robust search engine to share part information within and between multiple shipyards and computer business systems in order to streamline design, production, life cycle maintenance and business processes. CPC serves as a powerful tool in realizing the Navy vision of 'One Shipyard' - a virtual enterprise operating across organizational boundaries to optimize the processes of ship design, construction and repair. Electric Boat (EB), Bath Iron Works (BIW) and Ingalls shipbuilding (HII-Ingalls) developed and implemented CPC into production in 2004. Since then there have been many lessons learned, suggested enhancements and advancements in the technology. Currently, CPC is providing part definition processes and disclosure capabilities to the three participating shipyards. CPC is presently limited to part attribute and document data and does not capture, exchange or link 3D geometry to the part data. The addition of this capability is an expressed desirability by both shipyards and the Navy as a cost savings enhancement. Enhancing CPC with engineering data, including inventory levels for CPC parts, adding more National Stock Numbers (NSN's), as well as suggested enhancements from the CGNX study are being analyzed as well. It has also been a desire to broaden participation, implementation, and application of the CPC throughout the U. S. shipbuilding enterprise. NASSCO and HII-NNS has been tasked to perform a study to assess the feasibility of joining the CPC collaboration. The overall project is intended to analyze, identify and map the implementation of marked enhancements to the existing capability in the areas of network, software and application changes, model inclusion and exchange, functionality enhancements and additional organization participation.

Edward Mueller
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During a Thirty five year career with Electric Boat Corporation Mr. Mueller has received numerous promotions to positions of increased technical, managerial and financial responsibility. Currently responsible for Virginia and Ohio Replacement class part standardization, CPC Central Configuration Control Group Lead, engineering bill of material, contract specification effectivity and data exchange between shipbuilders.

NAVAL VESSEL ICE CAPABILITY OPTIMIZATION EFFORT (N-VICOE)

Zenka Sellinger, General Dynamics - NASSCO

The upcoming changes in the American Bureau of Shipping Rules for ice capable vessels will alter the way ice capable vessels are built to ABS class requirements. These changes introduce the International Association of Classification Society (IACS) Polar rules into the current ABS Ice Class rules, for vessels navigating in partially ice covered waters. The learning curve created by the new rule set creates both a need to better understand the cost versus ice capability relationship, and an opportunity for innovation and cost reduction.



The goal of this project is to develop and document a system to better understand the new sets of requirements for ships that are not designed to break ice, but sail through waters where the ice pack is already broken. The project will also perform a minor investigation into the cost benefits of producing hulls which are capable of breaking light, first-year ice versus a non-ice breaking hull.

This project is divided into four 8 to 12-month phases and is scheduled to complete in April 2014.

GD NASSCO has partnered with the ABS Technology Group, which will provide guidance and ensure the developed analytical methods are fully compliant with the ABS Ice Class Rules, and GD Bath Iron Works, which will help implement the analytical methods to combat ships.

Zenka Sellinger

Engineer I

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Ms. Sellinger is an Engineer supporting the Initial Design and Naval Architecture (IDNA) functional engineering group in structural design and analysis.

Currently Ms. Sellinger is involved in structural design activities in support of GD NASSCO's Mobile Landing Platform (MLP) and Lewis and Clark Class of dry cargo ships (T-AKE). She is responsible for Structural Analyses on various ship foundations as well as aiding with Longitudinal Strength and Docking Plan calculations. Ms. Sellinger has involvement with Shock Analyses for foundations on the USS Makin Island (LHD 8).

Ms. Sellinger is actively involved in the current NSRP RA Project *Naval Vessel Ice Capability Optimization Effort (N-VICOE)*. As part of the project team, she attended an ABS Ice Class Rules Development Workshop at ABS Technology Group in Houston, TX, in August 2011.

Ms. Sellinger received a BSE Degree in Naval Architecture and Marine Engineering from University of Michigan.

ENTERPRISE RESOURCE PLANNING (ERP) INTEGRATION WITH CAD

Patrick Roberts, ShipConstructor Software USA, Inc.

The processing of material data that is captured in a shipyard's Product Information Model (PIM) system, then translating that data into the Enterprise Resource Planning (ERP) system is currently a manual process. This method is time-consuming, inefficient and error-prone. In particular, those people working in operations, planning and procurement have been seeking more effective approaches. After discussions with several shipyards, it was determined that focusing on only material data exchange would achieve fairly rapid results within a relatively short timeline. Because the final deliverable for this project is a neutral schema, there is potential to further develop this tool to include scheduling, planning and production activities.

Patrick Roberts

Program Manager

ShipConstructor Software USA, Inc.

Mr. Patrick D. Roberts graduated from the University of Southern Mississippi in 1995 with a Bachelor of Science and Technology degree in Industrial Engineering, as well as a minor in Business Management. Bender Shipbuilding & Repair Co., Inc gave him his introduction into the shipbuilding industry in 1997 as an Assistant Project Engineer. Since then he has also worked at VT Halter, Atlantic Marine & Alabama Shipyards, and back at Bender prior to joining SSIUSA in March 2006. Mr. Roberts has helped in the research and development areas on Bender's MARITECH programs, functioned as an engineering and production planner and scheduler at VT Halter and was involved in the NSRP Lean Enterprise project while working at Alabama Shipyard a division of Atlantic Marine. Mr. Roberts was also the Ship Repair Planning Manager at Bender Shipbuilding for 2 years. Mr. Roberts helped to implement the first common parts catalog in a 2nd tier shipyard through the efforts made on the successful NSRP Second Tier Shipyard Design Enhancement Program. In April of 2004, he accepted the responsibility to continue developing and implementing new technologies as Bender's Research and Development Manager. Recent projects that Mr. Roberts managed were; LASOX, Second Tier Shipyard Design Enhancement Program, and Agile Wireless Systems Management projects which have lead to implementations resulting in process improvements for the steel production, production planning and production support areas. Mr. Roberts also served a two year term as the Vice Chairman for NSRP's Ship Production Process Technologies Panel in 2005 – 2006. Mr. Roberts has joined the ShipConstructor Software USA, Inc. team as the Program Manager and is currently a project team lead in managing the Second Tier Design Enhancement Project – Phase III which was awarded by NSRP in 2007. The STSDEP III project is currently the largest NSRP project funded and under contract for FY2007 through FY2008.

SHIP COMMON INFORMATION MODEL (SCIM)

Dr. Burton Gischner, Electric Boat

Over the past several years the ISE Project has been developing and prototyping tools to enable an Integrated Shipbuilding Environment (ISE). Recently the Navy Product Data Initiative (NPDI) has written a specification for the next generation Navy shipbuilding Integrated Product Data Environment (IPDE) system. These two projects are the culmination of several years of work investigating the challenge of sharing information across IPDE systems.

NSRP has recently awarded a project called the Integrated Logistics Environment (ILE) which is continuing these efforts to establish a means for sharing product model data across IPDE systems. The ILE Project is addressing validation of the Ship Common Information Model (SCIM) developed as part of the NPDI Project as well as completion of this document.

During its first phase, the ILE Project used the tools and methods developed by the ISE Team and applied them to two current shipbuilding requirements: VIRGINIA Class IPDE data migration and the sharing of structural manufacturing work across shipyards. Moreover, this project used the NPDI Ship Common Information Model (SCIM) as the basis for these two pilots. As a result, this project is not only benefiting two current Navy programs, but is also demonstrating the capabilities of the NPDI SCIM as the means for supporting interoperability of the next generation IPDE. The second phase of the ILE Project is focusing on completing the remaining chapters of the SCIM document and updating the existing chapters to incorporate lessons learned during the validation efforts undertaken in phase one.

This presentation will focus on the structure of the Ship Common Information Model (SCIM) and the efforts to use it to facilitate data exchange between U.S. shipyards and the Navy.

The presentation will also highlight the accomplishments of the ILE Project in its first year in addition to outlining the plans for completion and adoption of the SCIM document.

INFORMATION TECHNOLOGIES

Discussing the underlying systems infrastructure required to support the other initiatives, with emphasis being given to the tools that reduce principal business processes - from initial business strategy development through post-delivery customer service - required to rapidly and effectively respond to the marketplace.

Dr. Burton Gischner

Information Technologies Panel Chair

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Dr. Gischner is a Principal Engineer at Electric Boat Corporation with 40 years experience in computer technology and software development for submarine design and fabrication. He received a B.S. from Columbia University in 1967; an Sc.M. from Brown University in 1969; and a Ph.D. from Brown University in 1972.

He is currently serving as Chairperson of the Information Technologies Panel for the NSRP A.S.E. Program, and is an active member of the SNAME Ship Production Committee.

Dr. Gischner has been involved with NSRP Projects to develop an Integrated Shipbuilding Environment (ISE) since their inception, and is currently the Technical Leader for an NSRP Project to develop an Integrated Logistics Environment (ILE).

In the International Standards arena, he functions as Chairman of the United States Technical Advisory Group (TAG) for ISO TC184/SC4. This is the organization that determines voting positions for the United States on all STEP related issues within ISO. In this capacity, he also serves as Head of Delegation for the United States at all ISO STEP Meetings. He received the 2005 International William J. Conroy Standards Professional Award for his exceptional leadership in the development and implementation of Product Data Exchange Standards.

Dr. Gischner has been the lead developer and architect of Electric Boat Corporation's software system for piping fabrication. This set of computer programs produces automated pipe details, pipe assemblies, material ordering information, and instructions to feed numerically controlled pipe bending, marking, and cutting machines. It has been used for design and construction of the 688, TRIDENT, SEAWOLF, and VIRGINIA class submarines, and is also being used to support VIRGINIA pipe fabrication at Huntington Ingalls - Newport News.

HOLISTIC RISK AND HSEQ MANAGEMENT FOR MARITIME

Dennis Medler, Det Norske Veritas (DNV)

Efficiency in the Risk and HSEQ Management Process for Maritime

By facilitating for standardization, verification and enhanced transparency, well-structured information systems can bring value to the Risk & HSEQ Management processes. Further it makes internal control and reporting easier, more accurate and timely. Leading companies in the Maritime industry are now gaining valuable experiences by consolidating their tools and methods in this area. These companies are claiming they are able to reduce indirect costs by improving the efficiency and effectiveness of the operational risk and HSEQ management processes. And further their direct cost by reducing the overall risk level preventing loss from unexpected events.

Abstract

Holistic Risk & HSEQ Management is becoming increasingly important for corporations in their engagements to balance proactive initiatives to their reactive traditional KPI monitoring and reporting. Stakeholders demand corporate accountability and transparency, and globalization calls for businesses to address risk quickly and demonstrate their risk performance almost real time. Reliable and credible data from the risk sources aggregated to the levels of decision making is a key success factor.

And yet many companies lack a complete picture of their enterprise risk portfolio. Corporations are looking to consolidate their systems support in the operational Risk and HSEQ management area.

Many companies started to use management information systems within a limited functional area. Often the early focus is only on Incident Management and reactive follow up of risks. Using a these tools also for Risk assessments including identification, measurements, monitor and controlling of risk facilitates for standardization, verification, enhances transparency and makes internal control and reporting easier, more accurate and timely. And over the last 2 – 3 years we have seen an increasing demand from both present and prospective clients to take a more holistic approach to the whole Risk & HSEQ Management area. Leading companies in the oil & gas industry are now gaining valuable experience from the holistic approach to Risk & HSEQ Management with the support of MIS. Companies are claiming they are able to reduce indirect costs by improving the efficiency and effectiveness of the operational risk and HSEQ management processes. And further their direct cost by reducing the overall risk level preventing loss from unexpected events.

HOLISTIC RISK AND HSEQ MANAGEMENT FOR MARITIME, *CONTINUED*

Weld visual inspection methods have changed very little over the last 60 years and this is limiting improvement in productivity amongst the USA shipyards. The manual visual inspection done in shipyards is slow, subjective and due to a lack of repeatable tool, very redundant in nature with sometimes there being four different stages of in process quality control. Most aspects of other weld inspection methods like UT, RT, MT, etc have made great strides but most weld inspectors are still using Go/No-Go manual gauges like shortly after WW2.

The purpose of this project is to develop a Tool which can be used to make weld inspection as objective as possible thus reducing the redundancy built into the system thus improving productivity and at the same time improving the weld quality. Reduced weld repairs, less over welding and better documentation are all part of the benefits that should accrue from using this new portable weld inspection tool called Wiki-Scan/Ship.

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Responsible for DNV Software Maritime and AIMS (Asset Integrity Management Solutions) products; covering North America with Nauticus product line for Ship Owners, Ship Builders and Ship Designers. He works with major ship owners in North America for integrity, HSE&Q and environmental compliance. In the ship design area, he works with ship yards and Naval Architectural firms through design and environmental programs. Dennis joined DNV Software 2008; which brings him full circle. He started his career years before in shipbuilding; as the Director of Computer Ship Design at Designer and Planners where he spent 7 years providing computer services for all the Todd Shipbuilding companies and acted as a service bureau for several Canadian shipbuilding companies. From there he joined SRS – Shipping Research Service of Norway, as Director, responsible for establishing a US and Canada presence for SRS.

Between those; as Vice President of Sales and Marketing he was part of 2 start-up companies in the Rapid Prototyping industry and both went public; 3DSystems and DTM Corporation. He holds a degree in Business Administration.

Business Processes & Information Systems Technical Track

Wednesday, October 5, 2011

Dr. Burton Gischner – Track Leader

Information Technologies Panel Chair

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Dr. Gischner is a Principal Engineer at Electric Boat Corporation with 40 years experience in computer technology and software development for submarine design and fabrication. He received a B.S. from Columbia University in 1967; an Sc.M. from Brown University in 1969; and a Ph.D. from Brown University in 1972.

He is currently serving as Chairperson of the Information Technologies Panel for the NSRP A.S.E. Program, and is an active member of the SNAME Ship Production Committee.

Dr. Gischner has been involved with NSRP Projects to develop an Integrated Shipbuilding Environment (ISE) since their inception, and is currently the Technical Leader for an NSRP Project to develop an Integrated Logistics Environment (ILE).

In the International Standards arena, he functions as Chairman of the United States Technical Advisory Group (TAG) for ISO TC184/SC4. This is the organization that determines voting positions for the United States on all STEP related issues within ISO. In this capacity, he also serves as Head of Delegation for the United States at all ISO STEP Meetings. He received the 2005 International William J. Conroy Standards Professional Award for his exceptional leadership in the development and implementation of Product Data Exchange Standards.

Dr. Gischner has been the lead developer and architect of Electric Boat Corporation's software system for piping fabrication. This set of computer programs produces automated pipe details, pipe assemblies, material ordering information, and instructions to feed numerically controlled pipe bending, marking, and cutting machines. It has been used for design and construction of the 688, TRIDENT, SEAWOLF, and VIRGINIA class submarines, and is also being used to support VIRGINIA pipe fabrication at Huntington Ingalls - Newport News.

UPDATE ON STEP DEVELOPMENT AND IMPLEMENTATION AT THE PDES INC. CONSORTIUM

Charlie Stirk, CostVision Inc.

This presentation will discuss how the shipbuilding community can contribute to and benefit from ISO 10303 STEP modular AP development, implementation, and testing. The most widely used STEP AP's, 203 and 214 for mechanical CAD, are converging into a single modular standard, AP242. Many commercial mechanical CAD AP implementations are tested in the CAX-IF, which also publishes the schemas and recommended practices needed by translator vendors, and is co-managed by PDES Inc. In contrast to the shipbuilding and other monolithic AP's, modular AP's can be updated more frequently and are managed as a portfolio, which takes advantage of module, software, and data re-usability. Besides improved Product Manufacturing information, 242 will have a new lightweight tessellated format to interoperate with other formats like Collada used in training and simulators and JT and 3D PDF in lightweight viewers. Also important to representing shipbuilding information, 242 has user defined attributes, and will have the ability to reference specific shape aspects within CAD models in external files. In addition, future capabilities for 3D piping, electrical wiring, and assembly tolerancing will be useful to shipbuilders. The next most widely implemented STEP AP, 239 Product Life Cycle Support (PLCS), has a new implementation architecture based on the new edition2 schema and the Systems Modeling Language (SysML) as recommended by the authoritative standards organization, the OASIS PLCS Technical Committee. Reference data can extend the PLCS model to represent all non-geometric shipbuilding STEP AP information, and can be tested by implementers in the PLCS-IF. LOTAR (Long Term Archiving and Retrieval), a consortium of many of top-tier aerospace manufacturers co-managed by PDES Inc. is advancing AP242 and AP239 and interested in sharing with other industries. In the past, some shipbuilders were active members of PDES Inc., but separately developed the shipbuilding AP's. Partly because they are monolithic, not modular, there are very few shipbuilding AP implementations. This talk will explain how the semantics of the shipbuilding AP's can be supported by the STEP modular architecture at lower cost.

Charlie Stirk

President

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Charlie Stirk is the founder and president of CostVision, which is an engineering management software and consulting company. He is the past Technical Advisory Committee Chair, current Communications Chair and Champion for Alliances and Partnerships on the board of PDES Inc., that develops and implements STEP standards. Charlie is the 2008 recipient of the PDES Inc. Brad Rigdon Technical Management award. He is Co-Chair of the Tool Interoperability Working Group of the INCOSE professional society for systems engineering. He was the US designated expert for edition 2 of the ISO 10303-239 Product Life Cycle Support (PLCS) STEP standard. He is the designated subject matter expert for the Target Costing Interest Group of the Consortium for Advanced Management International (CAM-I), co-author of their book *Hitting the Target: The CAM-I Target Costing Implementation Guide* published in Sept. 2005, and 2007 recipient of their Robert A. Bonsack award for distinguished contribution in the advancement of cost management.

IMPROVED METHODS FOR THE GENERATION OF FULL SHIP SIMULATION/ANALYSIS MODELS

Stewart Moore, Electric Boat

Large-scale full-ship analyses and simulations are performed today in various disciplines. Such analyses typically involve multiple computer based tools and data sets. Much of the analysis and simulation flow is a manual activity. There is a need to improve upon the time and cost required to execute such large-scale, full-ship simulation flows. Furthermore, solely expanding use of modeling and simulation tools, without accompanying changes in the model generation, analysis, and simulation approach, will not deliver significant savings. Model generation, analysis, simulation, and results interpretation are complex efforts and often are the major cost of full ship analysis.

The author presents a summary of several NSRP efforts which support process design and analysis automation from the early concept to the detailed stages. These unique approaches focus on supporting multilevel modeling fidelity within a flexible design environment at the earliest stages of ship concept formulation by implementing a more computer-aided engineering (CAE) data centric approach. The CAE data is used in automated simulation flows to significantly reduce the time required to perform various ship analyses. Reducing the time required to perform the analyses enables the results to be available at the beginning of the ship design cycle, thus having the most cost effective impact as ship design progresses through the ship's lifecycle.

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Mr. Moore has over 38 years experience at Electric Boat Corporation and previously at BBN in all aspects of scientific software development. His research has focused on development of finite element, and infinite element methods, and on implementing them in software that is readily usable by the community of design analysts. Mr. Moore has a broad range of experience in scientific software development covering the full range of software languages, hardware platforms, operating systems, advanced software concepts, graphical debuggers, source code control systems and CASE disciplines. Past experience in parallel processing algorithms and hardware has included both scaleable and shared memory paradigms.

Most recently, Mr. Moore has been Project Manager for several National Shipbuilding Research Program (NSRP) initiatives, including two Panel Projects and the Modeling and Simulation (M&S) 1 & 2 Projects totaling over \$2M in R&D funding. The M&S projects support shipbuilding simulation process improvements and analysis automation. The unique approach centers on a flexible design environment at the earliest stages of the ship design cycle; formulating and implementing a more computer-aided engineering approach to ship modeling and simulation. The assignment includes both business and technical coordination of a multi-team partnership.

Mr. Moore started his career at Electric Boat in 1973 as an engineer in Naval Architecture, where he was responsible for structural analysis and design utilizing proprietary analysis software. In addition, he participated in the design of the Land Level Facility pontoon submarine launcher. He continued his career in Purchasing at Electric Boat as Chief of Purchasing Administration responsible for three supervisors and a forty member clerical staff providing document repository, offset printing, data entry, and production of Purchase Orders and interfacing of purchasing computer system with company-wide MIS. In 1982, Mr. Moore joined BBN Technologies as Product Manager of the SARA-2D/3D finite element software responsible for software development, hardware porting, user support, software distribution, documentation, and market development. Development contributions included development of pre- and post-processing capabilities, efficiency improvement, parallelization of the solution subroutine and implementation of substructuring capabilities. He rejoined Electric Boat in 2002 as a Principal Engineer responsible for development of software projects in structural analysis, structural acoustics, and other scientific disciplines. Mr. Moore has been involved in various company IR&D projects and is currently supporting development and implementation of Integrated Product Data Environments (IPDE) and Computer Aided Engineering applications.

Mr. Moore has a B.S. degree in Civil Engineering from the University of Massachusetts, a M.S. degree in Civil Engineering from the University of Connecticut and a M.B.A. degree from Rensselaer Polytechnic Institute. Mr. Moore has published over 30 technical papers primarily dealing with scientific software, parallel processing, and integrated engineering analysis.

DESIGN FOR MAINTENANCE AND REPAIR

Dennis Fanguy, Bollinger Shipyards

Utilizing similar techniques as those successfully applied during the Design for Production project, this project will: provide comprehensive design solutions aimed at the reduction of O&S costs of ships and ship systems; establish hull, mechanical and electrical ship repair standards to increase reliability of ship maintenance and modernization activities; deploy a comprehensive implementation strategy across the shipbuilding and repair industry through direct participation by the Navy, Coast Guard, and industry; and develop and disseminate technology transfer activities to the industry at large, as well as the design standards community.

Dennis Fanguy

Vice President of Quality Management Systems

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Dennis is a 1984 graduate from the University of New Orleans with a Bachelor of Science degree in Electrical Engineering. He is currently the Vice President of Quality Management System for Bollinger Shipyards in Lockport, LA.

Mr. Fanguy has served as the Chairman of the Bayou Chapter of the American Society of Naval Engineering and is a member of the Society of Naval Architects and Marine Engineers. Dennis is also active in many other professional organizations such as the Offshore Marine Services Association, Institute of Electrical and Electronics Engineers Standard 45 cable committee, American Bureau of Shipping under 90M Rule Development Committee, Nicholls State University Manufacturing technology curriculum advisor committee, while volunteering on various subcommittees for the National Offshore Safety Advisory Committee.

During Dennis' 27 years at Bollinger Shipyards, he has held the positions Chief Electrical Engineer, Chief Project Engineer, Director of Program Management, Chief Engineer, Vice President of Engineering and finally Vice President of Quality Management System. He has been responsible for the Design, Integration and Testing of all new construction activities at Bollinger Shipyards, not the least of which include 77 each 87' Coastal Patrol Boats for the U.S. Coast Guard, 14 each 52M Patrol Vessels for the Navy and 49 each 33M Patrol Boats for the U.S. Coast Guard, in addition to various commercial vessels.

NVR STRENGTH CRITERIA IMPLEMENTATION INTO MAESTRO FEA APPLICATION

Shaun D. Hunter, DRS Defense Solutions, LLC

Class requirements regarding direct analysis, specifically strength criteria, in many cases are not integrated into FEA applications. The engineering analyst is forced to use 'home-grown' and error prone processes to extract structural response results (i.e. deformations/stresses) and perform external strength calculations. The analyst must post-process these results within the context of the global FEA model, which can also be difficult, time-consuming and error prone. All future ships requiring NVR classification, such as USCG's Offshore Patrol Cutter (OPC) will also have to complete this process and will therefore benefit from this new technology.

The goals of this panel project are to address the NVR structural direct analysis requirements of the US Navy, industry shipyards and ABS by implementing the NVR structural strength criteria in the finite element analysis computer program MAESTRO and creating functionality to better facilitate the processing/post-processing of the strength criteria results. Achieving these objectives will enable the Navy, industry and ABS to more quickly and more accurately apply the NVR structural criteria to new ship designs, design evaluations, and for assessing repairs, changes and through-life condition of naval ships.

Shaun D. Hunter***Naval Architect/MAESTRO Product Manager***

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Mr. Shaun Hunter is a naval architect at DRS Defense Solutions, LLC, Advanced Marine Technology Center (DRS DS AMTC) and has over 10 years of experience in the maritime industry with a strong background in ship structures, direct analysis, and software development. His area of expertise includes conducting global/local finite element analyses of marine vehicles as well as the use and development of marine design software. Mr. Hunter has conducted numerous full-ship finite element analyses, and has been closely involved in the development of several commercially available computer programs for designing and analyzing marine vehicles, and has used most of these programs in a consulting context within a diverse community of clients.

Prior to joining DRS DS AMTC, Mr. Hunter held naval architect positions at American Bureau of Shipping (Naval Engineering Department) and Alion Science and Technology Corporation. Mr. Hunter holds a Bachelor of Science degree in Naval Architecture and Marine Engineering from University of New Orleans.

Ship Design & Material Technologies

Technical Track

Tuesday, October 4, 2011

Dave Wood – Track Leader

Ship Design & Material Technologies Panel Chair

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Dave Wood is a Project Engineer at Ingalls Shipbuilding - Avondale Operations with over thirty nine years of maritime experience. Before joining Ingalls, Wood served in the U.S. Navy on seven ships, progressing from Seaman to Commanding Officer of an ammunition ship. Wood's shore duties included Engineering Instructor for Naval Department Heads, Executive Officer of a major shore station, and Chief Staff Officer of a Military Sealift Command sub-area. Wood graduated from Cornell College with a bachelor's degree in History and Political Science. He has Engineering Officer of the Watch (EOOW) qualification for 1200 psi, twin plant, and steam propulsion and had a sub-specialty in 1200 psi steam engineering. At Avondale Operations he is coordinating ship repair and commercial business initiatives.

DESIGN SPACE NAVIGATOR FOR STEEL STRUCTURES

Paul Blomquist, Applied Thermal Sciences

The “Design Space Navigator for Steel Structures” is an active SDMT Panel Project that has created a software package allowing designers to quickly navigate through a large number of solutions to structural design problems, in accordance with current Naval Vessel Rules and American Institute of Steel Construction requirements.

The software generates trial designs and validates compliance to rules and other input design criteria. Once the input data has been entered, the program evaluates hundreds of potential designs, discards all that do not meet the input criteria (such as allowable stress, deflection requirements, safety factors, etc.) and generates output of up to 200 designs that will meet the requirements. Alternative designs include changes in section depth, plate thickness, frame spacing, longitudinal spacing, and other information. Output data includes weight per square foot, plate thickness, dimensions of stiffeners, sectional properties and many other items needed by the designer. Of great value are “utilization factors” – which report how much of the allowable stress is developed in each member in each trial design.

A beta-level version has been evaluated at HII-Ingalls and Marinette Marine with good feedback.

Paul A. Blomquist

Design Space Navigator for Steel Structures

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Mr. Blomquist brings a background of over 25 years' experience in shipbuilding and heavy industry, and is the author of several novel concepts in this field. At present, he serves as Principal Technologist, Laser Applications, for Applied Thermal Sciences of Sanford, Maine. Recently, he served as Vice President and Chief Technical Officer of Precision Light Systems, a subsidiary of ATS, and also was Director of Manufacturing Technology at ATS.

Prior to joining ATS, Mr. Blomquist was Research Engineer and Manager of Maritime Technology Programs at the Applied Research Laboratory, Pennsylvania State University. He also served as senior welding engineer at Bath Iron Works for 16 years, where he directed the development and implementation of traditional and advanced welding technology regarding every aspect of the shipbuilding process. This included fabrication, overhaul and repair operations involving a wide variety of processes, alloys, products and equipment. In addition, he was cognizant welding engineer for BIW's Industrial Sales Division, which served an extensive group of industries, as well as overseas consulting projects. While at BIW he was awarded two National Shipbuilding Research Program grants for research in advanced methods of ship production, and also was recipient of two AEGIS Excellence Awards for contributions to the DDG-51 program in the areas of close-tolerance thin-gauge panel fabrication and manufacturing of super-alloy gas turbine uptakes.

He also worked in the operations and welding engineering departments at the Electric Boat Corporation, as well as in the heavy mechanical construction industry. He is a member of the Laser Institute of America, the Welding Panel SP-7 of the National Shipbuilding Research Program, and the American Welding Society. He is chairman of the American Welding Society's C7C Sub-Committee on Laser Beam Welding and Cutting.

AUTOMATED ANALYSIS AND OPTIMIZATION OF SHIP HULL STRUCTURE

Craig Collier, PE, Collier Research Corporation

There is an industry need to proceed from concept definition to final design quickly and efficiently, while still maintaining accuracy and attention to details. HyperSizer® structural analysis and design software quantifies and compares various marine vessel structural configurations (in steel, aluminum and/or composites) side-by-side. Advanced strength and stability analyses are performed for all panel concepts and material selections to find a better and lighter weight ship hull. The CAE software works with FEA solvers (MSC/Nastran, Abaqus, and Ansys) throughout the design process to quantify and prevent critical failure modes on all structural components while significantly reducing structural weight. An example ship hull is presented that begins by extracting FEA-computed internal loads and then uses analytical failure methods to quantify safety factors for all mechanical load sets. Sizing optimization includes stiffened panel cross-sectional dimensions of welded steel or composite laminates to determine the lightest weight combination. For composite materials this includes layup ply angles and stacking sequences, ply drops, and global ply tracking and reduced drawing part numbers. After sizing optimization, generalized stiffness terms are then imported back to the FEM for the next iteration of computed load paths. All types of modeling techniques are supported from smeared equivalent 2D planar meshes to discretely meshed stiffener shapes.

Craig Collier, P.E.

President

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Mr. Collier is the creator of HyperSizer software, and the president and co-founder of Collier Research Corporation. He received his BS and MS engineering degrees from North Carolina State University and has over 25 years experience working in the aerospace industry both commercially and at NASA. He has worked on aircraft such as the NASA Ares V heavy lifter, and the NASA CCM, a NASA first, which is an all-composite crew module alternative to the metallic crew module. Other projects for Mr. Collier include reusable launch vehicles, hi-speed civil aircraft, the all-composite Bombardier Learjet85, the Gulfstream G650, and the B2 stealth bomber. At NASA, Mr. Collier focused on the research of composite failure analysis methods and structural optimization. In 1995, Mr. Collier co-founded Collier Research and developed HyperSizer, software whose origins come from NASA and is now fully supported commercial software.

NSRP PROJECT: HANGER STANDARDIZATION

Sean Murphy, Huntington Ingalls Industries – Ingalls Shipbuilding

Historically, the installation of hangers has been specific to a class of ships and specific to a shipyard. Various hanger types require design details, installation requirements and/or drawings, shock qualification and testing documentation, support structure requirements, and possibly historical documentation showing when the Navy has approved the use of specific hangers on a specific class of ship or application.

The author presents an overview of a recent NSRP project intended to reduce ship production costs and improve standardization of hangers across the shipbuilding industry. The project includes gathering the set of information that is required for each hanger installation and extension, locating and cataloging the information if it already exists, creating a digital database of the hanger information, and producing

a guidance document for new hanger qualifications and installations showing the user what information will be required to get the candidate hanger qualified for use in U.S. Navy shipbuilding.

The goal of the project is to provide the shipyard industry two major benefits:

- Reduction of rework by eliminating the situation of the engineer recreating hanger data that already exists, but is not readily accessible in hard copy storage.
- A template and process that will show the steps to follow to obtain approval for a new hanger.

Sean Murphy, P.E.
Engineer Structural 4

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Sean has worked in the Shipbuilding industry for the last 15 years and an employee of Ingalls Shipbuilding for the last 10 years. During his tenure at Ingalls, he has worked in the areas of naval architecture, structural design and analysis, shock and vibration testing, qualification and analysis, fatigue testing and general field engineering. Some of recent project include project leader of the DDG 1000 UNDEX Hull Whipping Program, the LHA6 Mast Analysis Project, and participated on various NSRP and ManTECH project.

Mr. Murphy received a BS Degree in Naval Architecture and Marine Engineering from the United States Coast Guard Academy. He is a registered Professional Engineer in the state of Mississippi.

STEEL AND STEEL PROCESSING TO BENEFIT SHIP CONSTRUCTION

Rob Akans, Concurrent Technologies Corporation

In spite of its many years of use and application, steel, the most widely used material in ship construction, continues to evolve. As new alloys and processing methods are developed, applications require lighter, stronger and more capable performance. One overarching design theme in modern ship construction is to reduce structural weight, which allows for larger, and potentially more capable payloads. This presentation will focus on several recently developed steel alloys and processing techniques that offer additional benefits to the shipbuilding industry. Potential extrapolations of these technologies for future applications in the US shipbuilding community are also identified.

Rob Akans
Senior Director, NMC Technologies

Mr. Akans has more than 30 years of metalworking and manufacturing experience. In his current role as Navy Metalworking Center (NMC) Technical Director, he identifies metalworking manufacturing and technology needs in the Navy industrial base, distinguishes relevant technical issues for NMC project development, provides technical guidance to the NMC Director and CTC project managers, and manages NMC and non-NMC projects. Since joining CTC in 2004, Mr. Akans has served in a number of management roles. Before that, he held various technology development and management positions in the U.S. industrial base, specifically in the aluminum, forging, and other metalworking industries. Mr. Akans holds a B.S. in Metallurgical Engineering from Western Michigan University.

All Panel Meeting

Newport News, VA

October 4-6, 2011

Ship Design & Material Technologies Panel Meeting Breakout Session

Grand Ballroom Salon V

The Ship Design and Materials Technology Panel will meet at the Newport News Marriot at City Center, Newport News, VA. The SDMT breakout session technical program will be focused on materials with a focus on steel. 6 October there will be a tour of the foundry at Newport News Shipbuilding. This tour will be restricted to US Persons only.

Day 2

Wednesday, October 5, 2011

10:00AM	Break	<i>Grand Ballroom Salon II</i>
10:30AM	Call To Order & Opening Remarks and Panel Project Selection Results	Dave Wood, Panel Chair
10:45AM	Heat Hardening Gears	Don Haldeman, Philadelphia Gear
11:20AM	Corrosion resistant nickel alloys 686 (UNS N06686) and C-22HS	Ed Hibner, National Specialty Alloys
12:00PM	Lunch (Provided)	<i>Grand Ballroom Salon II</i>
1:00PM	Cryogenic Machining Background and Potential Benefits for Shipbuilding	Jay Rozzi, Creare Incorporated
1:40PM	Personnel Safety Barrier, Berm and Coaming System for DDG-1000 (US Citizens Only)	Kevin Stefanick, CTC
2:20PM	Break	<i>Grand Ballroom Salon II</i>
3:00PM	Shipboard Installation Methods for Insulated Bus Pipe	Deirdre Burley, GLB & Associates
4:20PM	Panel business	Dave Wood, Panel Chair
5:00PM	Adjourn	

Ship Design & Material Technologies Panel Meeting Breakout Session

Grand Ballroom Salon V

Day 3

Thursday, October 6, 2011

7:30AM	Continental Breakfast	<i>Grand Ballroom Salon II</i>
8:30AM	Bus departs	
9:00AM	NNS Foundry Tour (US Citizen only)	
11:00AM	Return from tour	

INDIRECT COOLING FOR SHIPBUILDING

Jay Rozzi, Creare Incorporated

For nearly the last decade, Creare has been developing a unique approach to cool cutting tools during machining operations. Rather than use high flow rates of external coolants or cryogenics to remove heat from cutting tools, we have developed a unique approach called the Indirect Cooling System (ICS). In this novel approach, a very small flow rate of inert liquid nitrogen (LN₂) is routed through the machine to the tool tip to effectively cool it during machining. The flow rate of LN₂ for our ICS is two orders of magnitude smaller than that used in conventional flood cooling. We have evaluated our approach for lathe turning, milling, and drilling of conventional and advanced materials. For many of these operations, we have been able to more than double the overall processing speed, compared to conventional flood coolants; resulting in productivity increases and the associated cost reductions. In this presentation, we will discuss the development of our ICS, describe relevant test results, and discuss the benefits of our approach for shipbuilding.

Jay Rozzi
Principal Engineer

Creare Incorporated

Dr. Jay Rozzi is a Principal Engineer at Creare Incorporated. He received undergraduate, master's, and Ph.D. degrees in Mechanical Engineering from Purdue University. While at Creare, Dr. Rozzi has spearheaded innovations in advanced manufacturing, biomedical systems, two-phase flow, and thermal systems. During this presentation, Dr. Rozzi will be describing the technical details associated with the Indirect Cooling System (ICS), a technology developed at Creare. In this approach, very small flow-rates of liquid nitrogen are used to far surpass the performance of conventional coolants in turning, milling, and drilling operations for conventional and high performance materials.

All Panel Meeting

Newport News, VA

October 4-6, 2011

Day 2

Wednesday, October 5, 2011

Environmental Panel Meeting Breakout Session

Grand Ballroom Salon III

12:00 PM	Lunch (Provided)	<i>Grand Ballroom Salon II</i>
1:00 PM	Call to Order, Review of Agenda and Self Introductions	Pat Killeen, Panel Chair
1:05 PM	Closure of Solid Waste Management Units at BAE Norfolk	Tina Bickerstaff, O'Brien and Gere
2:00 PM	Break	<i>Grand Ballroom Salon II</i>
2:15 PM	State of the Panel Address/NSRP Update/White Paper Selection	Pat Killeen/Madeleine Davis
2:40 PM	Panel Business Meeting <ul style="list-style-type: none">• Budget Review• Steering Committee Update• Action Items• Future Meetings:<ul style="list-style-type: none">○ February (TBD)○ June (TBD)○ October (TBD)	Pat Killeen, Panel Chair
4:20 PM	Future Agenda Recommendations	Brian McVey
4:30 PM	Wrap-up and Adjournment	Pat Killeen

All Panel Meeting

Newport News, VA

October 4-6, 2011

Surface Preparation & Coatings Panel Meeting Breakout Session

BluePoint I

Day 2

Wednesday, October 5, 2011

Objective for the Day:

- Update on Navy initiatives
- Update on Current NSRP Panel Projects

1:00	Convene Meeting- Begin VTC	<i>BluePoint I</i>
1:15	Introductions	All
1:30	Chair's Report	Steve Cogswell, Panel Chair & Judie Blakey, Vice-Chair
2:00	NSRP Update	Madeleine Davis, ATI
2:15	NAVSEA/Navy update	Mark Ingle, SEA 05P23
3:00	Break	<i>Grand Ballroom Salon II</i>
3:15	Project Update – Evaluation of “Spot and Sweep” Blasting as a Cost Effective method of Underwater and Outer Hull Surface Preparation	Steve Cogswell, BAE Systems
3:45	Project Update – Compatibility of “Single Coat” Tank Coatings with Retained Pre-construction Primer	Pete Ault, Elzly Technology Corp & Judie Blakey, NASSCO
4:15	ECB meeting Update	Mark Edmonds
4:45	Nominations and voting of SPC Panel officers	
5:00	Networking Social	<i>Grand Ballroom Salon II</i>
6:30	Adjourn	

Surface Preparation & Coatings Panel Meeting Breakout Session

Grand Ballroom Salon I

Day 3

Thursday, October 6, 2011

Objective for the Day:

- Review of Newly approved NSRP Panel Projects
- Presentation of a related project & technology

7:30	Continental Breakfast	Grand Ballroom Salon II
8:00	Project Update – Development of an Idealized Future State for Navy Ship Maintenance Painting	Pete Ault, Elzly Technology
8:30	Project Update – Application of zeroGR Arm Systems to Reduce Injuries and Increase Productivity in Shipbuilding*	Steve Cogswell, BAE Systems SSY
9:00	Project Update- Compatibility of “Single Coat” Tank Coatings with Retained Pre-construction Primer.	Pete Ault, Elzly Technology & Judie Blakey, NASSCO
9:30	Break	
9:45	PCoE Study of DFS's	Patrick Cassidy, Elzly Technology
10:45	Resodyne – Portable Powder Coating Systems	Kevin Lane, Resodyne
12:00	Steering Committee Working Lunch (<i>pick up boxed lunch in GB Salon II</i>)	
1:00	Discussion (if required)	All
2:00	End VTC / Adjourn	

All Panel Meeting

Newport News, VA

October 4-6, 2011

Day 2

Wednesday, October 5, 2011

Information Technologies Panel Meeting Breakout Session

Grand Ballroom Salon IV

12:00 PM	Lunch (Provided)	<i>Grand Ballroom Salon II</i>
1:00 PM	STEP Shipbuilding Implementation Forum ➤ Focus on Discussion of Cooperation with PLCS-IF Forum	G. Radack (PiLog USA)
2:00 PM	Break	<i>Grand Ballroom Salon II</i>
2:30 PM	Discussion of Procedure & Voting for Panel Project Selection	B. Gischner (EB)
3:00 PM	Discussion of Proposed By-Law Changes (if Required)	B. Gischner (EB)
3:30 PM	Selection of Date and Location of Next Panel Meeting	B. Gischner (EB)
4:00 PM	Adjourn	

All Panel Meeting

Newport News, VA

October 4-6, 2011

Day 3

Thursday, October 6, 2011

Electrical Technologies Panel Meeting Breakout Session

Grand Ballroom Salon IV

7:30 AM	Continental Breakfast	<i>Grand Ballroom Salon II</i>
7:45 AM	Introduction	Gary Zimak
8:00 AM	Bonding and grounding update	John Layman
8:20 AM	Rapidly Deployable Lighting System	Lanny Ray
8:40 AM	Insulated Bus Pipe Installation Methods	Charlie Smith
9:00 AM	Break	<i>Grand Ballroom Salon II</i>
9:15 AM	Update on past projects	Dan Morris, Jason Farmer, Greg Stevens
10:15 AM	Discuss panel projects that were recently voted on by ECB	Gary Zimak
10:45 AM	Discuss future projects	All
11:30 AM	Lunch	
12:15 PM	Voting on Chairman and Vice Chairman	All
1:45 PM	Discuss next meeting time and location	Gary Zimak / All
2:00 PM	Adjourn	

Ideas for August 2011 / 2012 submittals:

- Fiber Optic – Best practice for assuring a connectors are properly inspected and cleaned throughout the entire ship construction / delivery & lifecycle to include cabinet subsystems
- Cable tagging – can we embed a barcode or RFID for tagging. Laser and hot stamping Composite terminal boxes
- UPS – Multi smaller units compared to larger units & remote monitoring
- Glyptal – enamel painting for insulation
- PRC and air tight penetrations (Alternatives to PRC) – DSCR 2011/2012
- Low level lighting to replace lanterns
- On board cable fixes (splicing & jacket repairs) – 5 [Erik]
- EMI – DSCR 2011/2012
- Switchboards
- LED lighting – Phase II
- Panel/Box labeling

All Panel Meeting

Newport News, VA

October 4-6, 2011

Day 3

Thursday, October 6, 2011

Welding Technology Panel Meeting Breakout Session

Grand Ballroom Salon III

7:30 AM	Continental Breakfast	<i>Grand Ballroom Salon II</i>
8:30 AM	Call to order Minutes of last meeting NSRP Panel SP 7 membership report Chair report Technical Reports: <ul style="list-style-type: none">a) Software based technology (Jim Kennedy)b) Frictioncoat process (Nancy Hardwick)c) Mn fume project status report (Dan Chute)d) Portable welding robot (Jeff Noruk)e) Advanced GMAW (Paul Blomquist) Next meeting location	
12:00PM	Adjourn	

All Panel Meeting

Newport News, VA

October 4-6, 2011

Day 3

Thursday, October 6, 2011

Workforce Development Panel Meeting Breakout Session

Blue Point I

7:30 AM	Continental Breakfast	<i>Grand Ballroom Salon II</i>
8:00 AM	Welcome and Introductions; Meeting Overview	Mark McCoy
8:20 AM	NSRP/NAVSEA Program Update	Mary Saady
9:00 AM	ECB Overview	Dennis Fanguy
9:30 AM	ECB Project Selection Meeting Out Brief	Mark McCoy
10:00 AM	Break	<i>Grand Ballroom Salon II</i>
10:15 AM	Strategic Overview / Charlotte Meeting Follow-up	Mark McCoy & Dave Bennett
10:45 AM	Process Development	Facilitator: Dave Bennett All Panel Members
11:45 AM	Lunch	
12:45 PM	Process Development	Facilitator: Dave Bennett All Panel Members
4:00 PM	Adjourn	

For Info: <http://gsshipconference.org>

All Panel Meeting

Newport News, VA

October 4-6, 2011

Day 3

Thursday, October 6, 2011

Planning, Production Processes & Facilities Panel Meeting Breakout Session

BluePoint II

7:30 AM	Continental Breakfast	<i>Grand Ballroom Salon II</i>
8:00 AM	Panel Chair Update: <ul style="list-style-type: none">• Recently Awarded Panel Project Overview• Summary of PPPF Papers being presented at the Ship Production Symposium• Election of PPPF Panel Vice-Chair<ul style="list-style-type: none">○ Nominees: Ken Fast – General Dynamics Electric Boat and Patrick Cahill – Knowledge Based Systems, Inc. (KBSI)	Tonya Boney, Panel Chair
8:30 AM	Mobile Solutions Supporting System Certification for Navy Shipbuilding Programs – OneList Tracking System (OLTS)	Robert Parker, Praeses
9:00 AM	Break	<i>Grand Ballroom Salon II</i>
9:15 AM	Utilization of Fit Up Gear Tools in Shipbuilding	Gerald Dasbach & Kevin Smith, Fit Up Gear
10:00 AM	3M Innovation Projects	Robert Meister, 3M
10:45 AM	Future Meeting Discussion	All
11:00 AM	Adjourn	

SHIPFITTING MADE EASY

Gerald Dasbach & Kevin Smith, Fit Up Gear

Fit Up Gear is the leading innovator of fitting tools that aid in the fabrication of ships, barges, jack-up rigs as well as many other applications.

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Ship Production Symposium in conj. with SNAME 2011 Annual Meeting – November 16-18 Houston, TX



2011 ANNUAL MEETING November 16-18 in Houston, TX

The SNAME Annual Meeting returns to Houston in 2011. Make your plans now to join your professional colleagues from around the world. [Register Now](#).

The [2011 Annual Meeting Call for Papers](#) is available for download now. Further details and registration information will be available online when available.

Venue:
Hyatt Regency Houston

Hyatt Regency Houston
1200 Louisiana Street,
Houston, Texas, USA 77002
Tel: +1 713 654 1234
Fax: +1 713 951 0934

To book your SNAME room, please see below:
Online link to reservations:
<https://resweb.passkey.com/go/SNAME>

SHIPTECH 2012 "Affordability, Sustainability & Technology" February 14-15, 2012

Mark Your Calendar & Call for Abstracts

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Affordability, Sustainability & Technology



February 14–15, 2012 Rosen Plaza Hotel, Orlando, FL

ShipTech 2012 is accepting abstracts for presentations on technology initiatives that improve U.S. shipbuilding and repair efficiencies and reduce total ownership cost through the use of innovative systems, processes or technologies. Suggested topic areas are listed below, but selected abstracts are not limited to these categories:

- Advanced Materials
- Business Processes
- Combat Systems
- Electrical Technologies
- Innovative Technologies
- Power & Propulsion
- Product Design
- Production Processes
- Surface Preparation/Coatings
- Systems Technologies
- Welding

Important Dates
Deadline for Submission of Abstracts – October 21, 2011
Notification of Acceptance/Denial – December 1, 2011
Presentations Due to NMC – January 23, 2012

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National Shipbuilding Research Program (NSRP)

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Attendance is limited to U.S. government employees and U.S. citizens and permanent residents with a Joint Certification Program number.

All Panel Meeting Agenda

Tuesday, October 4		
Time	Event	Location*
7:30AM	Continental Breakfast	GB Salon II
8:00AM – 9:45AM	Welcome	GB Salon I
	Welcome to Newport News	
	ECB Keynote	
	NSRP NAVSEA Program Update	
	Integrated Warfare Systems	
9:45AM	Break	GB Salon II
10:00AM	Individual Panel Briefs	
10:00AM	<ul style="list-style-type: none"> • Ship Design & Material Technologies • Electrical Technologies • Planning, Production Processes & Facilities • Surface Preparation & Coatings • Welding Technology • Business Processes • Information Technologies • Environmental • Risk Management • Workforce Development 	GB Salon I
11:45AM	Lunch (Not Provided)	
1:00PM	Technical Tracks	
1:00PM	Ship Production Technologies	GB Salon I
	Infrastructure & Support	GB Salon III
	Business Processes & Information Systems	GB Salon IV
	Ship Design & Material Technologies	GB Salon V
5:00PM	Adjourn	
6:00PM	Reception/Tour	Mariners' Museum

Wednesday, October 5		
Time	Event	Location*
7:30AM	Continental Breakfast	GB Salon II
8:00AM	Welcome	GB Salon I
8:05AM	International Shipyard Visits Report	
9:15AM	Break	GB Salon II
9:45AM	Technical Tracks	
9:45AM	Ship Production Technologies	GB Salon I
	Infrastructure & Support	GB Salon III
	Business Processes & Information Systems	GB Salon IV
10:30AM	Individual Panel Meeting	
10:30AM	Ship Design & Material Technologies	GB Salon V
11:30AM	Lunch (Provided)	GB Salon II
10:15AM	Technical Tracks	
1:00PM	Ship Production Technologies (continued)	GB Salon I
1:00PM	Individual Panel Meetings	
1:00PM	Environmental	GB Salon III
1:00PM	Surface Preparation & Coatings	BP I
1:00PM	Information Technologies	GB Salon IV
1:00PM	Ship Design & Material Technologies (continued)	GB Salon V
5:00PM	Adjourn	

Thursday, October 6		
Time	Event	Location*
7:30AM	Continental Breakfast	GB Salon II
8:00AM	Individual Panel Meetings	
8:00AM	Surface Preparation & Coatings (continued)	GB Salon I
7:45AM	Electrical Technologies	GB Salon IV
8:30AM	Welding Technology	GB Salon III
8:00AM	Workforce Development	BP I
8:00AM	Planning, Production Processes & Facilities	BP II
8:00AM	Ship Design & Material Technologies (continued)	GB Salon V
5:00PM	Adjourn	

*GB = Grand Ballroom; BP = Blue Point

