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Marine Safety Engineering

A Note From The Director

Greetings and welcome to the May 2014 edition of the Marine Safety Engineering (MSE) Newsletter. I am sure you will find this edition quite enlightening, particularly the articles about some of the accomplishments of our talented people, as well as the current roles and activities of our workforce.

Recently, I have witnessed a shift in international standards development at IMO toward the use of goal-based standards or GBS. This GBS regime, sometimes referred to as performance or risk-based standards, provides high-level safety objectives or goals, each accompanied by a set of functional requirements, to address various safety risks. From these goals and functional requirements, detailed and prescriptive requirements are derived. The advantage of GBS is that it provides greater opportunities for the industry to offer alternatives to prescriptive requirements, often through technology developments. Technological advances offer maritime operators the potential for economic or operational advantages, but can result in designs that were not envisioned when our regulations were published, making it difficult to determine if the safety risks have been adequately addressed. This is a challenge for all regulatory bodies, including IMO and the Coast Guard, and one that is becoming more and more evident in certain industry sectors, notably offshore and cruise ships.

To date, the Marine Safety Center (MSC) and the Office of Design & Engineering Standards (CG-ENG) engineers have coordinated with industry and our stakeholders to ensure an appropriate level of safety for novel forms of design and operation brought about through advances in technology. I'm convinced we will continue to do this, but as we look to the future, having a GBS regime that lays out high level goals and functional requirements should lead to a more robust, flexible and longer lasting regulatory regime that accommodates technology development and deployment. Developing and implementing performance based regulations is not easy. It will challenge us and those that follow us. Looking back over the past few years, I have seen extraordinary developments in available technologies and welcomed new ideas for standards development to embrace this evolving aspect of our job. I encourage anyone who is eager to be part of the Coast Guard's cooperative effort with the maritime industry to join the ranks of the marine safety engineering community and help us meet these types of future challenges.

In that regard, I extend a warm welcome to the nine officers who will complete graduate school this spring and take on their new roles as Coast Guard "techies", and to the eleven officers selected for marine safety engineering postgraduate training. Well done! To those of you departing a technical assignment, I thank you for your commitment, applaud your many outstanding achievements, and wish you and your families the best in your next assignment. BZ!

Jeff Lantz,
Director of Commercial Regulations and Standards

Postgraduate Education Season for AY 2015

Do you know an officer who would be a good candidate for the Marine Engineering, Fire Protection Engineering, Chemical Engineering, Mechanical Engineering, or Electrical Power & Controls Engineering Advanced Education Programs? Encourage them to apply and earn their postgraduate degree under the Marine Safety Engineering program!

This year, the Marine Safety Engineering Advanced Education program will select nine officers to attend graduate school to earn Master of Science degrees in a variety of disciplines, including:

- Marine Engineering
- Naval Architecture
- Ocean Engineering

Additionally, one officer will be selected to earn a Master of Science degree in each discipline below:

- Chemical Engineering
- Fire Protection Engineering
- Electrical Power & Controls Engineering
- Mechanical Engineering

Interested officers may check the following links for more information or contact the Marine Safety Engineering Program Manager.

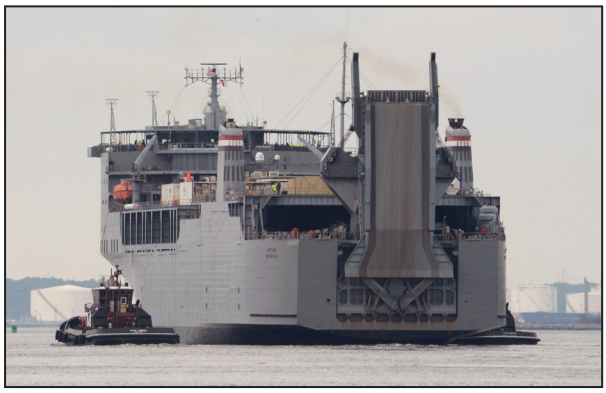
Advanced Education Opportunities

OPM-1 Post Graduate Information

Marine Safety Engineering Program Manager:
LT Amy Harman

MV CAPE RAY's Historic Mission to Destroy Syrian Chemical Materials at Sea

By LT Tiffany Duffy, Master's Degree in Chemical Engineering



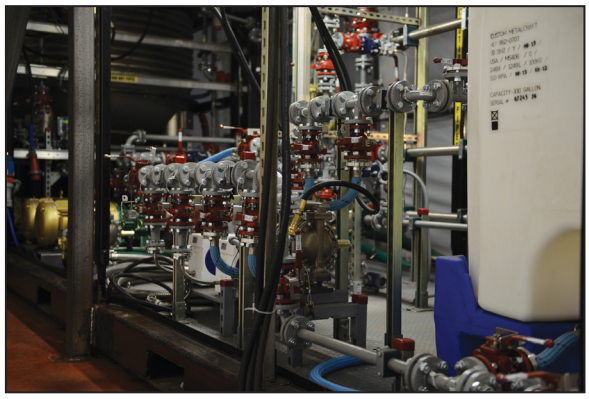
MV CAPE RAY setting sail from Portsmouth, VA.

In an effort to rid Syria of chemical weapon stockpiles, the Organization for the Prohibition of Chemical Weapons accepted an offer from the Department of Defense (DOD) to neutralize Syrian chemical weapon precursors on board MV CAPE RAY. The MV CAPE RAY is part of the Department of Transportation (DOT) Maritime Administration's Ready Reserve Force Program and is inspected and certificated by the U.S. Coast Guard in Hampton Roads, VA.

A number of modifications were necessary on the MV CAPE RAY in order to prepare the vessel for this unique operation. Modular berthing units and additional lifesaving equipment were required to provide accommodations for the personnel conducting the onboard neutralization of the chemicals. The vessel was also outfitted with two field hydrolysis systems, generally called batch reactors. These batch reactors are capable of neutralizing the chemicals into lower-level hazardous waste, or effluent, which can be commercially transported and disposed of in accordance with environmental and shipping laws.

The Office of Design & Engineering Standards (CG-ENG), the Office of Maritime/International Law (CG-0941), and the Office of Commercial Vessel Compliance (CG-CVC) were directly involved with the preparation, execution, and demobilization for the mission. The Hazardous Materials Division (CG-ENG-5) was consulted due to their expertise on the international shipping requirements for carriage of hazardous materials by vessel. Members of the division served as the subject matter experts on the proper packaging of identified hazardous materials and vessel stowage and segregation onboard the MV CAPE RAY as the vessel prepared for its mission as the first-ever vessel neutralization platform. Division members attended the MV CAPE RAY on several occasions in support of the Captain of the Port, Sector Hampton Roads, and liaised with executive-level decision-makers from DOD and DOT in the development of operational plans for proper shipping-container use, vessel stowage and segregation of hazardous materials and provided advice on spill mitigation procedures.

The MV CAPE RAY set sail from Portsmouth, VA on January 27, 2014. As of May 23, the ship awaits a transload opportunity for transfer of the chemical weapon precursors removed from Syria to begin neutralization.



Field Deployable Hydrolysis System used to neutralize chemical weapons.

Structural Failures Aboard Deep Draft Vessels

By LT André Douglas, P.E., Master's Degree in Mechanical Engineering and Naval Architecture/ Marine Engineering

LT André Douglas oversees repairs on MV THETIS inside the damaged ballast tank.

The Marine Safety Center (MSC) Salvage Engineering Response Team (SERT) continues to support other Coast Guard units in response to emergent vessel casualty situations. Their services typically include the evaluation of structural integrity, stability and proposed vessel salvage plans. Recently, SERT assisted two Sector Commands in their responses to the discovery of structural failures on deep draft vessels.

The MONTEREY, a fully loaded Liberian flagged containership, was underway from Belgium to Boston, MA, when the crew reported a Class 2 structural failure off the coast of Newfoundland. A Class 2 structural failure is defined as a fracture less than 10 feet in length or a buckle that has either initiated in or propagated into an internal strength member during normal operating conditions. The fracture aboard the MONTEREY was a 1.5 meter crack in the vessel's deck and side shell plating which had begun to propagate into attached longitudinal strength members just forward of the superstructure. All involved parties, including Germanischer Lloyd (GL), Transport Canada, Canadian Coast Guard, Coast Guard Sector Boston and MSC, worked together to ensure concerns were fully addressed. GL prepared a detailed structural analysis that revealed the failure likely resulted from defects in the weld itself, rather than excessive stresses associated with the vessel's loading condition. SERT's review of the engineering assumptions and results of GL's Finite Element Analysis led to a determination that the proposed repairs were acceptable. Repairs were completed in Newfoundland, examined using ultrasonic weld inspection techniques, and the vessel sailed to Boston without further incident.

In another case, the empty Bahamian flagged bulk coal carrier THETIS experienced a multitude of structural failures after transit through a severe storm while enroute Baltimore, MD, from Belgium. Initial signs of damage occurred when jets of water were found spraying out of two separate cracks in the side shell above the waterline near the fully pressed up heavy weather ballast tank. SERT was contacted by Sector Baltimore to perform an initial evaluation of the vessel's structural integrity and help determine the cause of failure. It was determined that the vessel should remain in port until the responsible class society, Bureau Veritas (BV), could conduct a more detailed damage survey and prepare an acceptable repair proposal. Further Coast Guard examination of the vessel revealed 15 additional cracks in double bottom structural members including an additional hull fracture. Unlike the initial cracks noted above, which likely resulted from excessive hull stress in heavy weather, the cracks in the double bottoms likely occurred over time due to fatigue. Based on the findings of BV's structural analysis, coupled with SERT's independent analysis of hull bending and shear stresses, Sector Baltimore was able to ensure all damaged areas of THETIS were properly repaired before departing port. LT André Douglas deployed to Sector Baltimore to provide on scene technical support while overseeing structural repairs on THETIS.

Bulk Coal Carrier THETIS underway at sea.

SERT stands ready 24 hours a day to assist field commanders in their response to vessel collisions, allisions, grounding, capsizing and many other casualty situations that can benefit from rapid engineering assessment. When appropriate, SERT members deploy on scene to assist. SERT can be reached at (202)-327-3985 and sert.duty@uscg.mil.

Where Are They Now? CDR Scott Johnson

By LT Anne Besser, Master's Degree in Naval Architecture and Marine Engineering

CDR Scott Johnson, Master's Degree in Mechanical Engineering (Control Systems).

MSE: *Congratulations on your upcoming assignment to the Office of Design & Engineering Standards, Human Element and Ship Design Division (CG-ENG-1). Could you give us some background on your career so far, and how it led to this position in "Techie" leadership?*

SJ: I knew from the time I arrived on the quarterdeck at OCS that I wanted to be a techie. I lobbied hard for a Student Engineer tour and was assigned to the CGC ALERT. After a fun and successful tour underway, I wasn't sure if I wanted to be a Naval Engineer or Marine Safety Engineer (MSE), so I had the brilliant idea of splitting my dream sheet picks between the two disciplines and leaving my destiny to my detailer. Fortunately, it worked out for me, and I was assigned to MSO New Orleans. I now know that since MSO New Orleans was on my dream sheet, it was an easy assignment for the detailer. After that tour I went to MSU Baton Rouge as the XO, then to the Naval Postgraduate School where I earned a Mechanical Engineering degree with a specialty in Control Systems. My payback tour was at the MSC, and now I'm wrapping up my Prevention Dept Head tour at Sector Anchorage.

MSE: *What do you think the importance of MSEs is in the Coast Guard?*

SJ: The Marine Safety Engineering program extends well beyond traditional marine inspection lifelines. We add tremendous value to other missions, which is why you will see MSEs involved in every major response operation. As an example, MSEs were involved in the well intervention decision making process during the DEEPWATER HORIZON Incident. Also, MSEs are highly sought after by Sector Commanders because of the unique perspective and talent they bring to field operations.

MSE: *How do you think tours in MSC and HQ impact a Prevention Officer's career?*

SJ: These tours are extremely valuable. By the very nature of our work, MSEs are involved in a wide array of issues such as vessel construction projects, marine accident investigations, domestic regulations, and international initiatives. You walk away from these tours with a unique perspective of the Coast Guard and the marine industry that few Coasties get to see.

"You walk away from these tours with a unique perspective of the Coast Guard and the marine industry that few Coasties get to see."

MSE: *What was your favorite tour? Your most challenging?*

SJ: By far, my tour at the MSC. I really enjoyed advising and assisting the field through complex vessel construction projects. I also had the opportunity to work on several groundbreaking/technologically advanced projects, such as a state of the art oil/gas production ship and new legislation for offshore supply vessels. These projects were both fun and challenging in part because the technology far outpaced our regulations, so we were operating in uncharted waters. This meant our decisions and actions set precedent for future policy and regulations.

MSE: *I have to mention that you were a Norwich Graduate (as I was too, Norwich Forever!)... What drew you to the Coast Guard, over the other 4 branches of service?*

SJ: Ha, now the Norwich secret is out. I promise I wasn't the guy who stole the Academy bear. Seriously, back in the early 90's the military was in a major drawdown, so it was nearly impossible to get a commission in any of the DoD services unless you had straight A's. I didn't have that, and I had engineering ambitions, so I decided to take a shot with the CG and was only selected as an alternate for OCS. Defeated in my quest for a commission, I went to work in the civilian sector and several months later I received notice that I moved up to a primary candidate. I made the most of the opportunity and haven't looked back since.

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MSEs: Where are they going?

By LT Amy Harman,
Master's Degree in Ocean Engineering

Every year, Marine Safety Engineers are sent to the field after developing technical knowledge and expertise attained while assigned to the Coast Guard Headquarter's Office of Design & Engineering Standards and the Marine Safety Center. Their hard work and dedication at one of the most intellectually-challenging tours pays off as they are sent to fill high-profile Prevention positions throughout the world. Take a look below to see where our MSEs are headed:

CAPT (s) Joshua Reynolds
Chief of Prevention
Eighth District

CAPT (s) Wayne Arguin
Deputy Sector Commander
Sector New Orleans

CDR Raymond Lechner
Division Chief
CG-CVC-1

LCDR Brent Yezefski
Chief, Incident Management Division
Sector Houston-Galveston

LCDR John Miller
Chief, Inspections Division
MSU Morgan City

LCDR Marc Montemerlo
Chief, Inspections Division
Sector Jacksonville

LCDR Catherine Phillips
Chief, Sector Command Center
Sector San Juan

LCDR Jesse Holston
CG-REG-2

LT Jodi Min
Sector New Orleans

LT Brian Meadowcroft
MSU Port Arthur

LT Jarred Hinton
Sector New York

LT Bryan Watts
Sector Mobile

Where Are They Now? CDR Scott Johnson (cont.)

MSE: *What advice do you have for junior officers entering the MSE Community?*
SJ: MSE assignments provide many opportunities to prove yourself through impactful engineering work, all it takes is personal initiative. You are in the driver's seat so find and seize that opportunity to make a difference in the program and I promise you it will pay off in job satisfaction and your Coast Guard career. Look at the senior officer ranks and you will see that MSEs have typically gone far in their CG careers. Additionally, they have done very well in post-CG careers due to their unique experience.

MSE: *Any final thoughts or comments?*
SJ: I certainly wouldn't have made it this far in my career without the help of techie mentors who provided me sage advice and opened doors for me to excel. Folks like CAPT John Mauger, CAPT(ret) Patrick Little, CAPT(ret) Frank Paskewich, CAPT(ret) Bruce Branham, CDR(ret) Pat Keffler & CDR(ret) Charlie Rawson. Thanks gents!

SJ: I'm looking forward to my next assignment at CG-ENG where I'll have a great opportunity to mentor MSE JOs, just like these gentlemen have done for me. My door is always open to techie JOs looking for career advice from a guy fresh off an operational tour.

Engineer in the Spotlight: LT Beth Newton

By LT Cristina Nelson, Master's Degree in Chemical Engineering

LT Beth Newton is currently stationed at Sector New York as a Marine Inspector. Her path started at the Coast Guard Academy where she received a Bachelor's degree in Marine Environmental Science in 2005. From there she developed herself as a mariner on CGC MACKINAW (WAGB-83) in Cheboygan, MI, and CGC HEALY (WAGB-20) in Seattle, WA. Knowing that she wanted to be an inspector, she applied to the Chemical Engineering program which would launch her career as a Prevention Officer. She was accepted and she received a Master's Degree from University of Rhode Island in 2010. After graduate school, Beth joined CG-ENG-5 in the Packaged Hazmat and Solid Bulk Cargoes Team, where she developed international and domestic regulations. She has gone on to be successful by quickly earning marine inspector qualifications and will soon be responsible for the Barge Section at Sector NY.

She enjoys her job fully and she recalls an inspection where, during an abandon ship drill, a competition began between a crew's engineering and deck side workforce racing to don their immersion suits. The enthusiasm and morale turned the long day around. Additionally, Beth deeply values her teammates and the people she has worked with as a Prevention Officer.

LT Newton inspects a shaft seal of a deep draft vessel in drydock.

Her future is bright as she continues onward through her Prevention career. In five to ten years, she envisions herself with a strong background as a marine inspector and fulfilling the roles of a leader in the field. She clearly loves her job and wants to continue to advance within and contribute to the Prevention field.

Finally, she shares the following advice for officers: "Go after what you want and work hard to get it." Her experience has taught her that success is in your own hands and it can pay off to push to ensure you reach it.

LT Rachel Beckmann: Excelling in Endurance Athletics

By LT Ryan Mowbray, Master's Degree in Chemical Engineering

Continuing her distinguished athletic career, two-time Coast Guard Elite Female Athlete of the Year (2006-2007) LT Rachel Beckmann, was selected as the 2013 runner-up Coast Guard Elite Female Athlete of the Year. LT Beckmann (Masters Degree in Chemical Engineering) is currently stationed at the Marine Safety Center where she serves as a Staff Chemical Engineer and is responsible for reviewing and approving design plans for bulk liquid chemical tank vessels as well as providing expert technical assistance to the field on bulk chemical transportation issues. In addition to standing out as the go-to technical expert on chemical issues, she has continued to distinguish herself as one of the top female triathletes in the Coast Guard.

LT Beckmann navigates a challenging mountain bike course during a grueling 12-hour race.

Her 2013 season began with a bang at the Armed Forces Triathlon Championship (1500m Swim, 24 mi Bike, 6.2 mi Run) as a member of the Navy Triathlon Team. She put forth a strong performance, taking third place and contributing to a first place finish for the team. Later in the season she stepped up the distance at the Peasantman Triathlon (2.4 mi Swim, 116 mi Bike, 26.2 mi Run) where she

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MSC Spotlight: Electrical Branch

By LT Linsey Grainger, Electrical Engineer

LT Meadowcroft and LT Grainger attending the SIKULIAQ in Marinette, WI.

The Marine Safety Center (MSC) Electrical Branch is comprised of a small group of talented electrical, power and control system engineers who review commercial vessel electrical system plans to verify compliance with applicable international, domestic and industry standards. The absence of federal regulations that specifically address dynamic positioning systems, the use of lithium-ion batteries, and state-of-the art electronically controlled propulsion systems presents unique challenges to those reviewing these systems. Working closely with system designers, vessel owners, classification societies and equipment manufacturers, MSC helps ensure that today's technically complex control systems provide a level of safety equivalent to that intended by regulation.

In support of the technical plan review that takes place at the MSC in Arlington, VA, Electrical Branch personnel frequently assist Marine Inspectors in the field during vessel automation testing. Last year, two of MSC's engineers (Lee Franklin and Dave O'Donnell) travelled to Dubai, UAE, to witness the Dynamic Positioning Failure Modes and Effects Analysis Proving Trials for the first of two Marine Well Containment Vessels. These vessels will normally operate as tankers in the Gulf of Mexico and would be deployed for containment services in the event of a deepwater well control incident in the region. In February of this year, LT Meadowcroft and LT Grainger assisted MSD Sturgeon Bay with the Periodic Safety and Design Verification Testing aboard the research vessel SIKULIAQ. While some MSC field visits are to assist the field, others are intended more for familiarization and professional development. Such was the case recently when the entire Electrical Branch visited the nuclear ship SAVANNAH in Baltimore, MD, to compare the "state of the art" electronics used in 1959 to those in use today. Coincidently, Dave O'Donnell, while serving with MARAD several years ago, was the engineer who redesigned SAVANNAH's main switchboard to meet shipboard power needs following the ship's decommissioning.

The current staffing of the Electrical Branch consists of four civilian and three active duty members. The branch is home to MSC's only CWO billet. The incumbent, MSSE4 DeCarlo Brown, provides practical insight to the relationship between plan review and vessel inspections. This mixture of electrical engineers provides a wide range of experiences and technical expertise. In addition to their plan review and field assistance duties, the Electrical Branch is involved with the Institute of Electrical and Electronics Engineers (IEEE). In fact, the Chief of the Electrical Branch, Akhter Hossain, published an IEEE paper entitled "Cause and Effect of Catastrophic Failure of Shipboard and Offshore Vessel/Platform Power Sources." This paper addresses events that result in total collapse of power systems aboard ships and offshore platforms, as well as how to mitigate and recover from these major failures. Another staff engineer, Consuelo Conde, has prepared an article on dynamic positioning systems for the IEEE Petroleum and Chemical Industry Technical Subcommittee.

To help ensure continued competency in the evaluation of complex shipboard electrical systems, the Coast Guard now offers advanced Marine Safety Engineering education opportunities through the Electrical Power & Controls program.

Excelling in Endurance Athletics (cont.)

Peasantman-Steel Distance Triathlon: LT Beckmann transitions from 2.4 mi swim to 116 mi bike.

placed first overall, finishing almost half an hour ahead of her nearest (male) competitor. Finally, competing at the international level, she represented the Coast Guard at the Ironman Triathlon World Championships in Kona, Hawaii, leading the Coast Guard Team into second place among the five services and placing 24th in her age group.

LT Beckmann is excited to continue to excel as a Coast Guard elite athlete for the 2014 season.

CG-ENG Spotlight: Lifesaving & Firefighting Standards Division (CG-ENG-4)

By LT Charles Taylor, Master's Degree in Fire Protection Engineering

As the Coast Guard's subject matter experts for lifesaving and fire safety equipment, materials, and arrangements, our world of work in CG-ENG-4 spans a wide range of areas. Chief among these are development, maintenance, and oversight of domestic regulations, including 33 CFR Subchapter N and 46 CFR Subchapters C, D, H, I, I-A, K, L, Q, R, T, U & W. Our corresponding efforts on international standards include SOLAS Chapters II-2 & III, and the IMO Life-Saving Appliances (LSA), Fire Safety Systems (FSS), and Fire Test Procedures (FTP) Codes. Additionally, we contribute expertise toward the development of a variety of other industry consensus standards such as ISO, ASTM, NFPA, UL, and U.S. Supplements to Classification Society Rules.

Recent significant domestic rulemaking efforts include harmonizing 46 CFR Subchapter Q lifesaving requirements with the LSA Code, and expanding the role of third parties in the approval process for lifeboats, rescue boats, launching appliances, and release hooks. We are also managing a wide-ranging project to harmonize fire protection, detection, and extinguishing equipment standards across Title 46 CFR. We are focusing on lessons learned from the DEEPWATER HORIZON casualty to improve lifesaving and fire safety rules in 33 CFR Subchapter N for OCS Activities. Finally, we have led the development of lifesaving and fire safety requirements for towing vessels in the new 46 CFR Subchapter M rulemaking.

We also represent the U.S. at the IMO Ship Systems and Equipment (SSE) Sub-Committee, where we work closely with international partners to ensure that lifesaving and fire safety standards meet the demands of an ever-evolving maritime domain, and regularly support other technical Sub-Committees. A couple of recent efforts include: 1) U.S. initiative to establish life safety criteria (e.g., visibility limits, acceptable toxicity/heat exposures) for use in performance-based evaluation of alternative designs/arrangements under SOLAS; and 2) active participation in the development of specialized lifesaving and fire safety requirements for ships operating in polar regions.

On a day-to-day basis, our staff of 10 (mostly PEs with advanced degrees) also manages the CG approval program for thousands of items of materials and equipment used on commercial and recreational vessels and offshore facilities. Finally, we provide technical support to the field, MSC, and other staff units (e.g., compliance (CG-CVC), boating safety (CG-BSX), and investigations (CG-INV)) in handling appeals, investigations, concept reviews, and equivalency determinations. Some of our recent work includes the development of recommendations for SOLAS rule changes, based on our review of the CARNIVAL TRIUMPH fire casualty investigation. We are never bored here at CG-ENG-4!

From left to right: Ms. Jacqi Yurkovich, Mr. Larry Fisher, LCDR John Pail, Mr. Kurt Heinz, Mr. Marty Jackson, Ms. Brandi Baldwin, LCDR John Miller, LT Charles Taylor, Mr. Lou Nash, Mr. Randy Eberly, & Mr. George Grills.

For more information, please visit us at our website http://www.uscg.mil/hq/cg5/cg5214/default.asp.

Tackling the expansion of OSV operations in the Gulf

By LT Jason Kling, Master's Degree in Reliability Engineering

LT Kling onboard the BLUE TARPON overseeing a well stimulation operation at the Spar HORN MOUNTAIN.

Vessel operators and specialized contractors have been investing a great deal of resources into the expansion of offshore supply vessel (OSV) capabilities since the 2010 drilling moratorium. Construction of traditional OSVs appears to be giving way to larger vessels with the capability to perform offshore activities such as well operations, in addition to the traditional cargo transfer. There has been an increasing demand for such multi-service vessels because they can perform operations similar to mobile drilling units or floating facilities at a cheaper rate. The complex arrangement of these vessels has created new challenges for the Coast Guard to implement appropriate design and inspection standards. The management of these types of activities span multiple divisions in CG-ENG and the MSC, and careful coordination is required to promote the most appropriate safety standards.

Through ongoing partnerships with various industry organizations, such as the Offshore Marine Service Association (OMSA), the Coast Guard has been invited to visit these novel vessels to gain a better understanding of their design and operation on the Outer Continental Shelf (OCS). At the invitation of Edison Chouest Offshore, LT Jason Kling of the Office of Design & Engineering Standards, visited the OSV BLUE TARPON to observe a well stimulation operation at a floating facility at MC-127. During the four-day trip, LT Kling shadowed vessel crew and workers from the specialized contractor, Baker Hughes, to gain insight into the specifics of well stimulation.

Well stimulation is one of the many forms of well operations capable of being carried out from this new generation of multi-service OSVs, and it involves pumping additives into the producing well at high pressures to improve production. The vessel was able to accomplish this service by maintaining position alongside the Spar facility with the use of its dynamic positioning system. The vessel made connection to the well through the installation of flexible hose and short hard-pipe sections joined to the production manifold. A series of blending units and high pressure pumps supplied the well stimulation mixture to the well under the monitoring and control of facility and contractor personnel.

Well stimulation apparatus including flexible hose and emergency disconnect.

The well stimulation job was completed safely through the comprehensive coordination between the facility, vessel, and contractor personnel. Through this extensive field interaction, the Commercial Regulations and Standards Directorate is more capable of developing appropriate standards for the evolving OSV fleet to continue to mitigate risk on the OCS.

If you have any comments about this e-newsletter, or would like to contribute an article to an upcoming edition, please contact LT Jason Kling:

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