



# THE MARINE CHEMIST NEWS

DEVOTED TO THE DEVELOPMENT AND DISSEMINATION OF  
METHODS FOR EVALUATING AND ELIMINATING HEALTH  
AND FIRE HAZARDS IN THE MARINE INDUSTRY

FEBRUARY, 2005

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**THE CHAIRMAN'S NOTES - OSHA Standards Update.** Several standards and issues have been moved ahead by OSHA.

**Fire Protection in Shipyard Employment (29 CFR1915 Subpart P)** In the final rule, issued Dec 14, 2004, OSHA gave employers until March 14, 2005 to accomplish the training required by the standard. An ASA representative sent a letter to OSHA requesting a delay of the effective date in order to make it coincide with the training deadline: training typically occurs before placing a new standatd in place. Those close to the process believe there is little chance for the requested delay to be granted. Marine Chemists should consider the standard to be in effect.

OSHA is preparing a Subpart P guidance document that will help clarify certain parts of the standard. They requested that Marine Advisory Committee on Safety & Health (MACOSH) assemble a work group to prepare a list of questions about the standard. (Your MCA Chairman was present at the work group session.) OSHA is preparing responses to those questions and will publicize the answers on their FAQ (Frequently Asked Questions) website. When we see the responses we will inform you via the MCA website.

**General Working Condition (29CFR1915 Subpart F)** - The notice of proposed rulemaking is scheduled for March 2005. This is the standard that addresses work in confined or isolated spaces as well as lock out/tag out. OSHA has

asked the SHAC committee to assist them in gathering information about current lock-out/tag-out processes in the maritime industry. At its last meeting SHAC presented the following conclusions of their research. Tags are used as a primary control measure at most shipyards, though some use additional locking devices. Most yards have separate programs for landside activities. It is expected that the new standard will require a "tags plus" approach, but currently there are no specifics on the "plus" aspect, other than tags by themselves may not be enough. The MCA is following development of this standard as it has the potential to have a significant impact on our current practices. We hope to have SHAC Co-Chair Thresa Nelson address the standard at our national seminar.

**Hexavalent Chromium (29CFR1915.1026)** - The Notice of Proposed Rulemaking (NPRM) was issued on Oct 4, 2004, the comment period closed Jan 3, 2005 and there is a Jan 18, 2006 Court deadline for the final rule. The NPRM asked for industry's answers to some 65 questions about the standard and hexavalent chrome in general. Representatives from many maritime committees, associations and shipyards provided comments. Of significance is the development of a separate standard for the maritime industry that addresses some of our industry-specific issues. As this standard is in the proposal stage, it is too early to provide any specific information about how the standard may impact our industry.

The MCA will continue to track the development of this standard and keep you informed about its progress.

**Maritime Fatality Videos** - A second OSHA maritime fatality video is nearing completion, and as many of you may recall from the 2003 mini seminars where the first video was displayed, these computer-animated representations videos of actual marine industrial make fantastic training tools. When complete, the MCA will obtain a copy and possibly distribute to all chemists for their use. **Greg Grondin, Chairman**

#### SECRETARY'S DESK

**Sectional Seminars** - This year's seminars will address several topics of concern to the MCA, the MCQB and the USCG. The locations and dates are as follows:

##### **Gulf-Inland Sectional Seminar:**

**Saturday**, February 26, 2005

(Note: ExCom Meeting, Sunday February 27)

New Orleans Hilton Hotel. tel: 504/469-5000

##### **Atlantic Sectional Seminar:**

**Sunday**, March 13, 2005

Norfolk Hilton Hotel. tel: 757/466-8000

##### **Pacific Sectional Seminar:**

**Saturday**, March 19, 2005

InnSuites Hotel, Tucson, AZ. tel: 520/622-3000

**The Program** planned is as follows:

- Adjacent Spaces & Certificate Implications
- New Subpart P Requirements
- Implications of the Trinity Case
- 'Safe Boat' Repair Procedures & USCG Requirements
- MACOSH & SHAC Update
- National Certificate Review Results & Comments
- Incidents/Near Misses
- CHT/Sewage & Certificate Writing
- The CMC AGST Training Module

'Safe Boat' work has become an especially hot topic. The USCG has issued a procedure required of its industrial facilities when repairing these gasoline-driven boats. Frequent mention of marine chemists in this procedure will be addressed and discussed at the 'minis'. **These boats have exploded during improper repair.**

As always, sectional business meetings will be held after each sectional seminar. You are encouraged to contact your representatives to ensure any issues you wish discussed are covered as part of your section's meeting.

**Elections** - This is an election year! In addition to new representatives and/or alternates, a new chairman-elect will be selected this spring in accord with the MCA Bylaws to begin a six year service cycle. In summary, the Secretary must receive nominations by March 15th. Candidates must submit or have forwarded three letters of endorsement, one from at least one member of each section, and a letter must be submitted from the candidate (with supporting biographical information) affirming their willingness to stand for election and serve. The MCA Executive Committee's nomination committee shall then submit to the membership a list of qualified candidates. The Secretary shall prepare and circulate ballots by May 1st. Ballots will be tallied on June 1st. **Don Raffo, CMC 668** of Stonington CT, a long-time active member in service of the executive committee, has agreed to put his hat in the ring, Any other candidates are encouraged to come forward before we put our fingers in purple ink this May.

**News Items - Blair Duff, CMC 698** is our newest chemist. Blair hails from Hollywood, Florida and has been brought along by **Pete Rimmel, CMC 638**. Blair's neighborhood is populated with some of the largest steel yachts in the US, along with the usual assortment of tankers, shore-side tanks and USCG vessels. Welcome aboard!

**Jim Wadatz, CMC 617**, has added **CSP** to the CMC and CIH in his professional title. Jim has joined an exclusive group of chemists: **Tom Beacham, CMC 635**, **Troy Corbin, CMC 644**, **Frank Monaghan, CMC 656**, and **John Fernandez, CMC 696** as possessing what are generally considered the three key-stone certifications for safety and health professionals - a rare and noteworthy accomplishment. Congratulations.

**Gone to NZ and the tennis courts! - Marty Finkel, CMC 640**, is in the final stages of emigration to New Zealand. After years of careful planning, Marty is hanging up his sniffer and taking up something new. He has built a new home and is training for work as a volunteer Ambulance Officer and Emergency Medical Technician (EMT-3) for his new community of Coopers' Beach in Mangonui, NZ. Also retiring is **Ken Chang, CMC 625** of Honolulu. Ken was a mainstay chemist for Honolulu Shipyard and on the clay courts at Ala Moana Park for years, and now he and Donna plan to take it easy. Fair wind and a following sea, gentlemen! Thanks for many fine years of invaluable service to our industry and its workers.

**Accidents** - On January 19, while being towed through the Chicago Sanitary and Ship Canal (an interesting name, indeed), an Egan Marine tank barge, towed by M/V LISA E., blew up, apparently in a relatively urban setting. It contained 588,000 gallons of "clarified slurry" picked up from the Exxon refinery in Joliet. The barge reportedly had a boiler and coiled heating system, but as to whether this was the cause of the accident is still speculation. Curiously, the cargo was reportedly a relatively high flash-point product and not maintained anywhere near its flashpoint during transit. The lone fatality, deckhand Alex Oliva, was found February 4, eleven days after the USCG officially gave up searching for his body. The barge burned and sank. The towboat was not damaged, nor was any of its crew reported injured. The explosion closed a nearby bridge and blocked traffic for hours. As of January 31, the channel has only limited use. There was an environmental release, but the material was reported to harden once in cold water, and was evidently successfully held by containment booms from any serious migration. (Thanks to **Waterways Journal** and report from **Gerry Bernardo, CMC 593.**)



(Egan Marine Barge Burns in Chicago Sanitary & Ship Canal. Courtesy of Waterways Journal and WLS-TV, Chicago)

Waterways Journal also reported a tragic loss of the towboat **M/V ELIZABETH M.** With six coal barges in tow, she drifted back over the dam and through the gates at Montgomery Locks on the Ohio River early on January 9. The vessel evidently lost control of its barges after passing above the locks, and was drawn over the dam while trying to recapture its tow in the strong current caused by recent heavy storms. Three crewmembers were rescued but four were lost.

Several Journals reported the dramatic loss of the Malaysian freighter **M/V SELENDANG**

**AYU** near Unalaska Island. Traveling from Seattle to China, she lost propulsion and drifted for two days, unable to restart her damaged engine. After an unsuccessful tow attempt, she grounded on December 8, later breaking up in heavy seas. A USCG helicopter crashed trying to clear the vessel. Though the CG helicopter crew managed to get to safety, the six vessel crewmembers aboard were lost. In addition to concern about bunker oil as the vessel broke up, EPA expressed great concern that rats on the ship, if they made it to pristine Analaska Island, might pose a threat to bird populations.

The Marine Digest reported four deaths and the loss of the Chilean tanker **M/T VICUÑA** at the Cataline terminal in Parangua, Brazil, Nov. 17. A methanol cargo exploded, ripping the ship in two, burned, but then dissipated. The released bunkers caused a significant oil spill.



(The vessel M/V SELENDANG AYU near Unalaska Island, from the USCG website, via Philip Dovich, CMC 667)

**Danny Bruce, CMC 605,** kept us abreast of a significant oil spill in his neighborhood on November 26. The Cypriot Tanker **M/T ATHOS**

I, hit something while squeezing her 37' draft up the 41' channel just south of Philadelphia on the Delaware River traveling to the CITGO Paulsboro, NJ refinery. The vessel lost some 30,000 bbls. of Venezuelan crude through the 6' by 1' puncture. The subsequent massive pollution response involved over 1000 workers along some 70 miles of the Pennsylvania, New Jersey and Delaware riverbank. As dead wildlife piled up, the argument over the schedule for double hulled tankers raged full-force in the papers. The **ATHOS I** was double-sided, but not double bottomed. She was punctured through the bottom between the #7C CT and #7P BT. Two nuclear power plants downstream shut down rather than risk taking in oil into their cooling systems. Later a large pump casing recovered from the channel was identified as the cause of the hull gash: the Marine Digest reported (Dec.'04 issue) that USCG matched paint taken from the casing to samples taken from the hull of **ATHOS I**.

Not that I'm picking on the Chinese safety record or anything, but on November 29 another **coal mine blast** killed 25 and trapped 141 in the Chenjiashan mine in Shaanxi province. Of those who managed to escape, 41 were hospitalized, most with carbon monoxide poisoning. This accident followed one in October that killed 148 miners in Henan province. In addition 16 officials were charged with covering up a massive coalmine fire and explosion on June 3 of last year that killed 14 and injured 23. (Premier Wen Jaibao, when notified, was said to be "extremely upset". Go figure.)

Finally, a tragic loss in Boston Harbor on June 30 this past year came as a reminder of work in the age of sail. A worker on the rigging of the **USS CONSTITUTION** lost his footing on the main mast's fighting top, and while fellow workers and tourists watched, fell 75 feet to his death. John C. Monaghan, a former chemical engineer, had dreamed for years of working on the famous square-rigger and had been in his dream-quest job with the Naval Historical Center Detachment Boston for three years. Though workers used harnessed full body gear to ensure safety when aloft, the workers evidently had to unclip when moving from place to place along the rigging, and Monaghan lost his footing during what should have been a simple and routine move.

**Review Request** - The 2005 MCA Directory will include, as always, a list of all known chemists by number. (Unfortunately the names of 39

chemists were lost by ABS at some point, and we've lost the names of these men.) This year we will begin noting those chemists designated as Life Members (LM). Unfortunately, our records also appear incomplete. When reviewing the list, if you discover any missed known life-members (or other errors), please contact the secretary with your corrections. Many thanks.

**Ed Willwerth, Secretary**  
**SUNSET OF THE STEAM TURBINE** - Steam turbines, developed at the end of the 19th century as the last significant improvement in steam use for ship's propulsion, have been reduced to two niches - propelling LNGs and nuclear powered ships. Some of us recall sea trials tending boiler water chemistry, and seeing steam plants in active service in many classes of navy warships.

The Navy has long since moved away from steam in its non-nuclear propulsion applications. Economical diesels of various designs have steadily pushed steam turbines from the high seas. The economic use of methane boil-off from LNGs, however, gave turbine propulsion's massive, complex, space-demanding and expensive boilers, turbines and reduction gear a viable commercial application on these wonderful ships. But their days on LNGs seem numbered. Though methane has a very high auto-ignition temperature (about 1,000F v. about 500F for diesel fuel), diesel engines designed with ignition-assist for methane ("dual-fuel" engines) are making their entry into LNG engine rooms on a regular basis. Marine Log (Jan'05), reports that Wartsila Corp. sold their designs for dual-fuel engines to European yards for several 75,000 m<sup>3</sup> LNG designs. MAN B&W also announced sale of dual-fuel engines (both main and diesel generators) for four huge Korean-built 210,000 m<sup>3</sup> LNG vessels. These vessels are especially interesting: LNGs have been built as insulated 'thermos bottles', with no cryogenic cooling equipment on board. The large Korean-built vessels will break precedent, ensuring economic delivery and recondensation or use as fuel of cargo boil-off for routes between the Middle East and Europe. Despite the love and dedication of their caretakers, turbines seem destined to follow their steam-piston expansion brothers into the history books. It seems ironic that steam turbines, after more than a century of use and development, may have as their final marine use propelling nuclear powered ships.