



NMA REPORT #R-395, Revision 4

DATE: September 24, 2012

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Asserting our right "...to petition the Government for redress of grievances."

Amendment I, U.S. Constitution, Dec. 15, 1791

[**Publication History:** After being misled by several agencies, our Association published and distributed the initial edition of this report on May 19, 2004 to Members of Congress. **Revision 1** updated the report to describe Congressional action taken in Sept. 2004 and to request a regulatory follow-up. **Revision 2**, Nov. 22, 2006 further updated the issue to include a successful mariner lawsuit to recover damages in a potable water case. On Jan. 1, 2008, our Association formally changed its name from Gulf Coast Mariners Association to National Mariners Association. **Revision 3**, Sept 21, 2010 we changed the title of the report and added new information by Capt. Kelly Sweeney. We separated "Food Service" from this issue and placed it in a separate report #R-455, Rev. 1. **Revision 5**, Sept. 24, 2012 updated the report by reviewing responses to Coast Guard Docket #USCG-2005-20052. NMA Research File is #GCM-44.]

REPORT TO CONGRESS – PROVIDING SAFE POTABLE WATER FOR MERCHANT VESSELS

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EXECUTIVE SUMMARY

Although the National Mariners Association (NMA) speaks on behalf of the safety, health, and workplace issues affecting approximately 126,000 “limited tonnage” merchant mariners serving on tugs, towboats, offshore supply vessels, small passenger vessels, and other workboats, we believe the potable water issue affects all merchant mariners as well as members of the public using waterborne transportation.

Before Sept. 9, 2004 when Congress amended 46 U.S. Code §3305 (below), our Association presented serious concerns about the poor quality of potable water used for drinking, cooking, and bathing aboard many vessels to the Coast Guard and later to Members of Congress.

Potable water on many workboats our mariners serve aboard is often carried, stored aboard, and delivered from other merchant vessels. The water on board many vessels is of poor quality, carelessly handled and stored, never tested, unpalatable, unsafe, and unsanitary. Although we reported this information to several Federal Executive Branch agencies including the Coast Guard, we were led in circles until Congress clearly delineated responsibility for regulating potable water quality and quantity by statute to the Secretary of the Department of Homeland Security.

We respectfully ask Congress to ensure that the Coast Guard trains its vessel inspectors to inspect potable water systems on all merchant vessels to ensure that they are properly constructed and maintained and that the water in those systems is regularly tested to ensure clean and sanitary fresh water for drinking, cooking, laundry, and bathing purposes.

Congress recently provided additional billets for Coast Guard inspectors and investigators and established the Towing Vessel National Center of Expertise in Paducah, KY, to prepare inspectors to address this large class of

previously uninspected vessels where many of our “limited tonnage” mariners’ work and many (but not all) potable water complaints originate. When the details of the proposed towing vessel inspection rulemaking were made public, we looked in vain for any mention of potable water system regulations since our Association previously requested the inclusion of potable water system inspection in our comments submitted to the rulemaking docket in 2005.⁽¹⁾ In comments in response to the Notice of Proposed Rulemaking,⁽²⁾ we submitted the following statement in Comments on the Notice of Proposed Rulemaking, Docket #USCG-2006-24412 on Oct. 5, 2011. [⁽¹⁾Refer to NMA Report #R-276, Rev. 9, Issue #42. ⁽²⁾NMA Report #R-276, Rev. 10, Issue #5-4, p. 21. NMA File #GCM-308.]

Statement

The health problem: Tugs and towboats take on water from a number of different sources. These not only include “approved” primary public water sources but also include secondary sources including contaminated hoses on docks, water barges, and from storage tanks on offshore supply vessels, or other vessels.

Many tanks used to store potable water are steel tanks with or without appropriate coatings that are of undetermined age and may be in poor condition. Rust is often a serious and visible problem – visible in drinking water glasses, commodes, washbasins, plumbing, and stains that affect clothes washed in washing machines.

Many tanks have deteriorating coatings and many systems do not even provide for the basic filtration of solids. Rust also causes the tops and sides of potable water tanks to deteriorate and allow contaminants to enter the damaged tanks from decks, bilges, and even invasive muddy river water or salt water through cracks, pin holes, and otherwise deteriorated plating.

Water treatment on many vessels consists almost exclusively of pouring undetermined and unregulated quantities of bleach into the storage tanks at undetermined periods – a questionable practice at best.

Example: Our Association cites a recent case where a shipyard painted the potable water tank of a refurbished towing vessel with a two-part epoxy solution but forgot to add the hardener. Consequently, the tank coating never cured or dried leaving the drinking, cooking, and bathing water on the vessel contaminated with a chemical substance that smelled like acetone. The manager who worked for this large national towing company never bothered to have the sample his mariners provided tested by an approved laboratory in spite of the perceived health considerations involved. The Captain who submitted the sample was later terminated in a retaliatory manner.

[NMA Recommendation: That the shipboard potable water supply for our mariners be at least as well protected as water provided to Coast Guard’s military and civilian employees. This calls for an immediate response with a reasonable, workable solution in plain English regulations our mariners and vessel owners can comprehend.]

Our mariners are now at the threshold of towing vessel inspection without a clear cut set of potable water inspection regulations even after the Coast Guard and Maritime Transportation Act of 2004 mandated action on this issue.

Almost all of the 6,200 towing vessels are “uninspected” vessels and as such were not subject to even the most rudimentary Coast Guard sanitary inspection either at the time of construction or on any regular basis thereafter. Builders constructed many existing potable water tanks on a bulkhead common with fuel or ballast tanks or with an adjacent polluted bilge. Few hose spigots are even equipped with inexpensive vacuum breakers that could prevent contaminated water from flowing back to potable water tanks. Some vessels do not have a dedicated water hoses that is used for no other purpose than to fill drinking water tanks. Tanks and associated plumbing often leak while homemade repairs may compromise the integrity of the system. The Marine Safety Directorate has known of these health and sanitation issues for years yet continues to ignore them.

In October 1999, the Commandant promulgated the latest version of COMDTINST M6240.5 titled “Water Supply and Wastewater Disposal Manual” to “provide standards and public health information for Coast Guard personnel responsible for producing, storing, monitoring, and using potable water and wastewater systems at afloat and ashore units.” This Manual “applies to all active and reserve, afloat and ashore commands.” The document’s Table of Contents clearly shows the broad extent of the agency’s knowledge. This book also provides clear evidence that the Coast Guard has an active concern for its own regular and reserve personnel *without one iota of concern to the limited-tonnage merchant mariners who serve on towing vessels.*

The Marine Safety Directorate maneuvered our Association’s “good faith” request for rulemaking into the ditch. Our Association now asks them to provide an adequate remedy as shown our recommendations.

Although the Coast Guard maintains a detailed potable water policy for all Coast Guard cutters and shore units, our Association had to prove to the satisfaction of Congress in 2004 that the Coast Guard never regulated potable

water used by the merchant mariners their Agency superintends.

If water is not of satisfactory quality and purity for drinking and cooking purposes, vessel owners must supply bottled water and adequate wash water for use by the crew, and industrial workers using the vessel. **Unfortunately, many companies have not been responsive to mariner needs.**

On Dec. 27, 2002, our Association petitioned the Coast Guard for rulemaking to ensure that safe potable water is a requirement on vessels of less than 1,600 gross register tons⁽¹⁾ – including all towing vessels. We presented details of the potable water issue in **Docket #USCG-2005-20052** at **www.regulations.gov**. After the Coast Guard tried unsuccessfully to pass the buck to the Department of Health and Human Services, and when they failed to take any initiative, our Association appealed directly to Congress for relief. [⁽¹⁾Our Association represents “limited-tonnage” mariners.]

Status: In Section 416 of the Coast Guard and Maritime Transportation Act of 2004, Congress amended 46 U.S. Code §3305 by “ensuring a vessel subject to inspection” (that will now include towing vessels) “has an adequate supply of potable water for drinking and washing by passengers and crew.” “In determining the adequacy of the supply of potable water... the Secretary shall consider...the size and type of vessel...the number of passengers and crew on board...the duration and routing of voyages; and...guidelines for potable water recommended by the Centers for Disease Control and Prevention and the Public Health Service.”

The Coast Guard put this rulemaking in a separate docket and **NOT** in the Towing Vessel Inspection Docket. Although a large number of our complaints come from older, poorly maintained towing vessels and are largely a storage tank and pipe maintenance and sanitation issue, the problem is also prevalent on older offshore supply vessels.

Letters in the separate potable water rulemaking docket (i.e., #USCG-2005-20052) indicate that “top of the line” companies have no problem with the quality of their drinking water. We don’t question their efforts and their letters to the docket. However, these letters – although well intentioned – **allowed the Coast Guard to do nothing** assuming the problem either was solved or would go away. On the contrary, this is a very important issue on many towing and offshore supply vessels and will not go away. **This problem deserves attention in this NPRM because it should be a towing vessel inspection item!** Since the Coast Guard failed to take corrective action for other vessels, we do not intend this issue to remain forgotten in this rulemaking package.

On May 27, 2005 our Association formally requested that the Coast Guard synchronize these two projects to ensure that potable water systems on towing vessels are inspected and water quality tested when issuing the vessels’ initial Certificate of Inspection. We see no signs in this NPRM that this has been done.

[NMA Recommendation to Congress: Our Association reiterates our previous request to provide “Potable Water” to towing vessels that meets existing Coast Guard standards applicable to their own vessels. This standard is reasonable, attainable, and is contained in an existing Coast Guard publication.]

Since providing clean and sanitary potable water remains a problem on many vessels, we respectfully ask Congress to call upon the Secretary of the Department of Homeland Security to direct the Coast Guard to train and use its inspectors and investigators to attend to all aspects of the potable water issue that affects many working mariners as well as members of the public utilizing public and private sources of marine transportation.

The Coast Guard **opened a docket**⁽¹⁾ on July 11, 2005 and solicited input from the public. After receiving 15 comments, they have not further addressed the issue. [⁽¹⁾70 FR 39699-39700, July 11, 2005, Docket #USCG-2005-20052.]

EXISTING STATUTES AFFECTING POTABLE WATER

46 U.S. Code §2103 states that “The Secretary has general superintendence over the merchant marine of the United States and of merchant marine personnel...inssofar as those vessels and personnel are not subject, under other law, to the supervision of another official of the United States Government. In the interests of **marine safety** and **seamen’s welfare**, the Secretary shall enforce this subtitle...the Secretary may prescribe regulations to carry out the provisions of this subtitle...The Secretary may prescribe regulations to carry out provisions of this subtitle.”

46 U.S. Code §3305(a)(1)(D): The **inspection process** shall ensure that a vessel subject to inspection...has an adequate supply of potable water for drinking and washing by passengers and crew.

- 46 U.S. Code §3305(a)(2)(A-D):** In determining the adequacy of the supply of potable water under paragraph (1)(D), the Secretary shall consider..
- (A) The size and type of vessel;
 - (B) The number of passengers or crew on board;
 - (C) The duration and routing of voyages;
 - (D) Guidelines for potable water recommended by the Centers for Disease Control and Prevention and the Public Health Service.

46 U.S. Code §10902. Complaints of unfitness.

- (a)(1) If the chief and second mates or a majority of the crew of a vessel ready to begin a voyage discover, before the vessel leaves harbor, that the vessel is unfit as to crew, hull, equipment, tackle, machinery, apparel, furniture, **provisions of food or water**, or stores to proceed on the intended voyage and require the unfitness to be inquired into, the master immediately shall apply to the district court of the United States at the place at which the vessel is located, or, if no court is being held at the place at which the vessel is located, to a judge or justice of the peace, for the appointment of surveyors. At least 2 complaining seamen shall accompany the master to the judge or justice of the peace.
- (a)(2) A master failing to comply with this subsection is liable to the United States Government for a civil penalty of \$500.
- (b)(1) Any 3 seamen of a vessel may complain that the provisions of food or water for the crew are, at any time, of **bad quality, unfit for use, or deficient in quantity**. The complaint may be made to the Secretary, commanding officer of a United States naval vessel, consular officer, or chief official of the Customs Service.
- (b)(2) The Secretary, officer, or official shall examine, or have examined, the provisions of food or water. If the provisions are found to be of **bad quality, unfit for use, or deficient in quantity**, the person making the findings shall certify to the master of the vessel which provisions are of bad quality, unfit for use, or deficient.
- (b)(3) The Secretary, officer, or official to whom the complaint was made shall -
 - (b)(3)(A) make an **entry in the official logbook** of the vessel on the results of the examination; and
 - (b)(3)(B) submit a report on the examination to the district court of the United States at which the vessel is to arrive, with the report being admissible into evidence in any legal proceeding.
- (b)(4) The master is liable to the Government for a civil penalty of not more than \$100 each time the master, on receiving the certification referred to in paragraph (2) of this subsection -
 - (b)(4)(A) does not provide other proper provisions of food or water, when available, in place of the provisions certified as of bad quality or unfit for use;
 - (b)(4)(B) does not obtain sufficient provisions when the certification includes a finding of a deficiency in quantity; or
 - (b)(4)(C) uses provisions certified to be of bad quality or unfit for use.

THE POTABLE WATER ISSUE

Potable Water: Whose Problem is it?

Our Association asserts that an employer (e.g., boat owner or operating company) must provide adequate quantities of clean and safe potable water for an inspected vessel on a voyage of any duration. While this is done routinely by many well-managed companies, it is clearly a problem with many others.

While providing bottled drinking water may be suitable and may provide a suitable solution in some cases, water is also used for bathing and cooking. These uses that are amenable to an “engineering” solution (below). The difficulty arises in the fact that there is an absence of meaningful Federal regulations, an absence of state control over “private” water systems. Until our Association contacted Congress on this matter, no government agency we contacted appeared to be willing to step up to the plate to protect the health and safety of our mariners. Not only does the problem of potable water affect our “limited tonnage” merchant mariners, it also exists for other workers who may be aboard a vessel as passengers or “persons in addition to the crew” and on every type of commercial vessel including drilling rigs and offshore production facilities.

Our attempts to solve this problem were frustrated by two federal agencies, the Coast Guard and the Department of Health and Human Services that both exhibited little regard for our mariners. Consequently, we asked that Congress clarify the issue and direct an appropriate Executive Branch agency to provide regulatory coverage to protect the health and welfare of our mariners by whatever means is necessary.

Reform Stalls in “Marine Safety”

Congress clarified the issue in 2004 by amending 46 U.S. Code §3305 and assigned the task of managing potable water to the Secretary of the Department of Homeland Security (DHS) and the Coast Guard. The Coast Guard opened a docket⁽¹⁾ on July 11, 2005, solicited and received meaningful input from the public and thereafter postponed further action on the project.. Nevertheless, the problem with safe potable water persists and a new approach may be necessary. We respectfully ask Congress to revisit this issue on behalf of our working mariners. [⁽¹⁾70 FR 39699-39700, July 11, 2005, Docket #USCG-2005-20052.]

New Approach

- **Inspection issue.** There are no meaningful provisions in any set of vessel inspection regulations that requires testing the quality of an inspected commercial vessel’s potable water. We ask that the Coast Guard develop and implement a reasonable and scientifically valid inspection and testing program. In cases where deficiencies are found, the inspection regulations should require that they be corrected. We ask that towing vessels specifically be included as “inspected vessels.”
- **Amend 46 U.S. Code §10902, Complaints of unfitness.** We ask Congress to amend the statute to allow mariners on small vessels with small crews to file complaints directly with Coast Guard inspection personnel that would trigger scientific water sampling, testing and evaluation and correction if necessary at times other than those normally set aside for vessel inspection. Mariners would receive “whistleblower” protections for reports made in good faith as currently authorized by Congress. The existing statute dwells on foreign voyages and utilizes courts and officials our mariners seldom interact with.

EXAMPLE #1 – WORMS FOUND IN A TOWING VESSEL’S DRINKING WATER

The M/V Dan MacMillan was a 27-year-old steel, 10,500 hp linehaul towboat owned by the American River Transportation Company of Decatur, Illinois, operating on the Lower Mississippi River on Oct. 12, 2001.

“At around 0805 Deckhand Red Gonzales informed me he was washing his hand in the sink in the deck locker when (a) small parasite worm came out on his hand. He went and got a jar for a sample and put the parasite in the jar.

I immediately call(ed) (the) operations (office) for Port Captain Raymond Hopkins who transferred me to Port Engineer Neil Platt who I informed what he had found. I contacted Helena Marine Service for bottled water as per Neil Platt.” s/Captain Larry Gwin

“Around 8 a.m. on Friday Oct. 12, 2001, I was informed that there was something in our water supply. It looks like two worms. I then checked our water system and changed two filters. Everything looks good even the old filter. Neil Platt was informed.” s/David Perry, Chief Engineer

“He called me back later that morning and said he would have a crew at Wepfer Marine on standby for our arrival and they would inspect and clean the water tanks.

“Upon arrival at Memphis, I pushed the tow...into the lake ...with the help of harbor boats. Tied off, secure. Proceeded light boat to Wepfer dock where I contacted the fleet dispatcher. He said there was a bucket of swimming pool cleaner, and we were supposed to pour it in the water tank and put the crew in the tank to clean it.

“I objected because we did not have the proper gear or personal protective equipment. This made Mr. Platt very mad. He said (that) this is what you put in your backyard (swimming) pool. I told him I did not care (and) that I was not putting my crew in the confined space anyway.

“Finally they got the Wepfer shipyard manager...to come down and proceeded to clean the tanks with the help of my crew.

“Supposedly, (the shipyard manager) took water samples but we never heard the results. Later we went to the shipyard and after the boat was raised on drydock, you could see water spraying out of cracks (and) splits in the hull. If water leaks out, common sense will tell you that it will leak back in (from the river) when the water in the tank reaches a low level. s/Captain Larry Gwin

EXAMPLE #2 – DRINKING WATER ON OLD OFFSHORE SUPPORT VESSELS

The M/V STINGRAY is a 25-year old, Coast Guard-inspected steel oilfield “liftboat” owned by Global Marine

Industries that carries a crew of three mariners and 16 “persons in addition to the crew.” These “persons” are oilfield workers who perform work from the liftboat while it is jacked up out of the water at an offshore job site. They live on the “liftboat” while they work on nearby oilfield installations. “Live” includes working, eating, sleeping, bathing, washing clothes and watching TV when there is a signal available.

One of our mariners commented on the situation as follows (edited):

“During the month of June 2003, I was transferred to the liftboat STINGRAY ... I have dealt with some bad experiences aboard this vessel as well.

“In January 2004 we were working on a job for Apache at Eugene Island (block) 188P. We arrived on location on a Friday...without a cook on board. The cook did not arrive until Saturday afternoon in time to prepare the 5:00 PM meal...several other Captains on (company redacted) boats had run this cook off their boats for being filthy as well as for being caught cooking with so-called potable water that the boats carry in their rusty and contaminated steel tanks. This water is dirty, nasty stuff that is often pumped to us from offshore supply boats!

One of the construction crewmembers came to me and said...I believe that cook is using sink water to cook with. So I began to watch the cook closely and caught him cooking some grits with the “sink” water. Members of the 12-man construction crew and I began to have a serious diarrhea problem and severe stomachaches and cramps. So I went in and confronted the cook about the situation...

Same Company – Different Liftboat

During my stay on the Liftboat POMPANO (June 2001 to June 2003) there were times when we would run out of bottled water that our employer allowed us to order on the weekly grocery list. I recall one time when our Captain called our General Manager and told him we only had 4 cases of bottled water left on the boat. At this time we were offshore on an (oilfield) diving job with a full diving crew.

The Captain told us the General Manager said we would have to use the potable water in the boat’s tanks for drinking and the cook would have to use it to cook with as well.

I approached the Diving Superintendent and explained the situation to him. He became very upset and telephoned his immediate superior who, in turn called our General Manager. The General Manager called the Diving Superintendent with an apology and sent the bottled water out on the next crewboat.

The Diving Superintendent uncovered the fact that our Captain had ordered the bottled water on his grocery list from the beginning but that the General Manager had arbitrarily cancelled the water from the grocery list. s/ Mark A. Blackman, Feb. 5, 2004

EXAMPLE #3 –EPOXY TANK COATINGS ON NEW & REFURBISHED WATER TANKS

Our Association received reports of the faulty applications of two-part epoxy tank coatings on a new inspected oilfield utility boat and a refurbished harbor tug. The two part formula on the utility boat was improperly mixed and never dried. The boat was put into service in spite of the crew’s complaints. Eventually, it was withdrawn from service and a crew from the shipyard with fresh air breathing apparatus entered the water tank and wiped off the original coating, dried the tank, and applied the coating properly over a two-day period.

On the refurbished uninspected harbor tug, the potable water from an old steel tank had a strong chemical taste and an overpowering chemical odor as in the case of the utility boat (above). A crew member took a water sample and a supervisor turned the sample in to company management. The water sample was never tested and the crew had to work the vessel until the taste and odor “went away.” Crew members did not report the incident to the Coast Guard for fear of losing their jobs.

EXAMPLE #4 – UNSAFE CHEMICALS IN TANK COATINGS. MARINER WINS CONTAMINATED POTABLE WATER LAWSUIT

[*Source: Lee J. “Jeff” Bloomfield, Esq. and Brian S. Katz, Esq. Bloomfield & Katz, 2226 Broadway, Suite 1, P.O. Box 2903, Paducah, KY 42002-2903. Richard L. Taylor v. Teco Barge Line. United States District Court, Western District of Kentucky, Paducah, KY, 5:04cv33-R. As reported in GCMA Newsletter #42, Aug./Sep. 2006.*]

Taylor was a second mate for Teco Barge Line, Inc. working on the board its vessel, the M/V ANN PETERS.

Beginning in Nov. 2000 and continuing through early May 2003, Taylor was repeatedly exposed to Bitumastic

300M, a hazardous coal tar based product that was used to line the potable water tanks of the vessel. As a result of these exposures, Taylor developed chronic contact dermatitis, and he now suffers from chronic rashes on his body, which will continue for 30 to 40 years. He has to undergo regular phototherapy to help alleviate the condition. He also suffered an increased risk of cancer as a result of this exposure.

Taylor sued the company, alleging negligence under the Jones Act in that it knew or should have known of the presence of Bitumastic 300M on its vessel, and also that it should have known of the dangers of the product. He also alleged that the company failed to provide a safe place in which to work, and that it failed to provide adequate confined space entry equipment or procedures. He also alleged that the presence of the product rendered the vessel unseaworthy.

The company denied that the plaintiff was exposed to the extent that he claimed, or that his injuries were caused by his exposure. It claimed that any damages that he suffered were a result of hypersensitivity. It also claimed that Taylor was negligent.

A jury awarded the plaintiff \$1,000,000.00. There had been no settlement offers from the company.

The Coast Guard Clearly Understands the Health Problems

In Oct. 1999, the Commandant promulgated COMDTINST M6240.5 titled "Water Supply and Wastewater Disposal Manual" to "provide standards and public health information for Coast Guard personnel responsible for producing, storing, monitoring, and using potable water and wastewater systems at afloat and ashore units" and states that "this Manual applies to all active and reserve afloat and ashore commands." The Table of Contents reveals the extent of the Agency's knowledge of the subject. This book is also evidence that the Coast Guard has an active concern for its own regular and reserve personnel. Apparently, the Coast Guard is unwilling to extend its concern to our merchant mariners and to other persons utilizing marine transportation.

We note recent declarations that ferries transport over 20,000,000 passengers each year. We have no figures on crews transported by boat to inland and offshore oilrigs and platforms.

In addition, the Coast Guard identified several publications by the International Organization on Standardization (ISO) that provide technical standards they believe are pertinent:

- ISO 14726-2:2002 Ships and Marine Technology- Potable Water Supply on Ships and Marine Structures; Part 1- Planning and Design.
- ISO 15748-2:2002 Ships and Marine Technology – Potable Water Supply on Ships and Marine Structures; Part 2- Method of Calculation.

Regulations of Other Agencies

The Department of Health and Human Services, Food and Drug Administration, has regulations in 21 FR Parts 1240 and 1250 dealing with the source and use of potable water and sanitation facilities on vessels. Although we are familiar with DHHS inspectors visiting new vessels under construction in shipyards as a part of the vessel inspection process, we sought additional information on how many vessel re-inspections by trained public health personnel have been made. We are not familiar with whether visits to new or existing uninspected towing vessels are required since these vessels never have been part of the Coast Guard's inspection process. After six years, the Coast Guard finally published a Notice of Proposed Rulemaking (NPRM) on towing vessel inspection regulations without any mention of potable water. Although the Coast Guard "bridging" program has been fully funded for the past three years, there is no mention of potable water standards for these vessels. Consequently, many vessels our mariners serve on have never had their potable water systems inspected or the quality of the water tested.

[NMA Comment: We ask that Congress specifically require by statute that the potable water systems on every type of commercial vessel be subject to meaningful inspection standards.]

We note in reviewing Marine Safety Manual, Volume X, Interagency Agreements and Acronyms, COMDTINST M16000.15, that there are no interagency agreements between the Coast Guard and the Food and Drug Administration regarding the inspection and maintenance of potable water systems on vessels served by our mariners. We also note that, while DHHS has a high profile on the cruise ship industry which is largely "foreign flagged." At the same time, few of our mariners (predominately American Citizens) witness comparable sanitation inspections and even fewer of our American-flag vessels enjoy any government oversight on their potable water systems.

We respectfully requested that the Coast Guard work with DHHS to craft an appropriate agreement between the

two agencies to ensure that the potable water systems on all vessels served by our mariners were satisfactorily protected. Thereafter, we requested that the Coast Guard (or DHHS) introduce an appropriate set of regulations to protect our mariners from waterborne diseases comparable to existing COMDTINST M6240.5 promulgated by the Commandant for Coast Guard personnel. **We specifically requested that this include mandatory periodic testing of potable water in vessel storage tanks.** We note that the Environmental Protection Administration recommends that using laboratories certified by individual states to perform tests on drinking water taken from the potable water systems of our vessels. **Unfortunately, nothing of this nature was undertaken following the 2004 amendments to 46 U.S. Code §3305 (above!)]**

OUR ASSOCIATION'S PREVIOUS POTABLE WATER RULEMAKING EFFORTS

On Dec. 27, 2002, the Gulf Coast Mariners Association (now “NMA”) initiated a petition to the Executive Secretary of the Marine Safety Council at Coast Guard Headquarters requesting regulations to ensure safe potable water on inspected and uninspected vessels of less than 1,600 gross register tons. Our petition was assigned Docket #USCG-2003-14325⁽¹⁾ in the Docket Management System. **We learned the hard way that opening a “docket” does not mean that regulatory action will be forthcoming.**⁽²⁾ [⁽¹⁾Refer to the docket on the internet at <http://www.regulations.gov/> ⁽²⁾The Coast Guard later opened a new docket, USCG-2005-20052) to collect public comments.]

A review of existing Coast Guard regulations, policies and guidance reveals little attention to potable water systems on commercial vessels. A review of existing Navigation and Vessel Inspection Circulars shows there is no active guidance published on this matter whatsoever. Nor is there any mention of potable water systems in Marine Safety Manual, Volume II, Materiel Inspection. Nor is there any mention in any Coast Guard vessel inspection regulations including existing regulations governing uninspected towing vessels, where over 32,000 mariners are employed, that even direct readers to regulations enforced by any other government agency – such as those of the Department of Health and Human Services (DHHS). **There is a complete void.**

Congress Caught the Coast Guard Passing the Buck to DHHS

Previous editions of this report informed Congress of how the Coast Guard tried to pass the buck to the Department of Health and Human Services. We will omit the details and move forward other than to say that Congress exercised good judgment in amending 46 U.S. Code §3305 in 2004. (see “**Existing Statutes**” above)

Coast Guard plan approval for “inspected” vessels does include a review of the configuration of potable water systems. The Coast Guard Marine Safety Center examines potable water systems for compliance to 21 CFR Part 1250 and applicable 46 CFR regulations.

[NMA Comment: While this may be true for inspected vessels, most of the nation’s estimated 6,200 uninspected towing vessels served exclusively by our “limited tonnage” mariners were built over the years without going through any regulatory “plan approval” process.]

The Coast Guard pointed out to us that although the Coast Guard is not the approving authority, the Marine Safety Center advises submitters of noted problems and requires submitters to obtain approval from either the local FDA or Public Health Service office responsible for potable water systems on vessels and provide documentation of approval to the OCMI. The improper configurations we pointed out regarding potable tanks sharing common bulkheads with unsuitable tanks should be brought to the attention of the HHS for their action.

[NMA Comment: We believe that Coast Guard inspectors require suitable training to deal with all potable water problems and that the Coast Guard rather than our mariners or company officials must deal with other government agencies including DHHS wherever necessary.]

State Health Agencies

As part of our background preparation for earlier editions of this report, NMA contacted the Louisiana Department of Health and Hospitals on several occasions and in particular Ms. Karen Irion, the administrator for the state’s safe drinking water program. We learned that scientific testing of public potable water supplies is a **highly technical matter**. The problem that affects our mariners most likely occurs as or after the water leaves the

public water system and is taken aboard “*private vessels*” and is no longer a part of the public water supply under state control. Essentially, the water is now out of the public realm and “*belongs to the boat owner*” – complete with any problems it may have.

The Louisiana Department of Health and Hospitals provided us with a list of EPA-approved laboratories that can perform microbiological and chemical analysis of drinking water. We contacted ENTEK Environmental Laboratories in Baton Rouge, LA, and established a commercial relationship to arrange for testing potable water specimens provided by our mariners. They insisted that water samples be collected in a scientific manner and brought without delay and often under controlled temperature conditions to the lab for analysis. This is often very difficult for our mariners to accomplish on their own, especially without the cooperation of their employer.

A typical “chemical analysis” costs approximately \$170 and the “microbiological analysis,” if requested, could run over \$1,000. These estimates are more than individual mariners can afford to check upon the safety of the water that they are expected to drink, cook with, or use for bathing purposes.

ENGINEERING SOLUTIONS OFTEN ARE POSSIBLE

[*Source: Purification System Clears Onboard Water, by Katie Antalick, The Waterways Journal, Feb. 23, 2004, p. 7*]

Contaminated drinking water on towboats may be a thing of the past. Bill Meek and Pam Mitchell co-owners of Controlled Water Systems said their three-step water purification process leaves unsafe, smelly, and bad tasting water behind. Meek and Mitchell had worked on purifying water in hospitals or large buildings for several years, but decided to give towboats a try with the suggestion of Mitchell's father, Jimmie Brown, a retired captain from Southern Towing.

"My dad just retired from the riverboats after 46 years and he asked what we could do to clean up the water," she said. *With onboard water tanks typically contaminated with sediment, dirt, trash, or bacteria*, Meek said. There was a problem with the 8,000 to 10,000-gallon potable water tanks not staying clean from cracks or leaks in a hull wall or other means, such as chlorine becoming inactive after 48 hours.

"A lot of these old boats will have galvanized lines or steel piping, and trash, dirt, dust and rust gets into the tanks, making water have an objectionable taste and smell," said Meek.

In order to counteract the contamination, Controlled Water Systems installs a three-step system that includes sediment removal, purification of water by UV light and polishing by removing any bad taste or odor. Meek said the system is very similar to systems that are used on cruise ships.

Both the sediment removal and polishing processes use filters, but the UV purification process uses an electro polished stainless steel reaction chamber.

"That lamp has an output of 240 nanometers," Meek said. "The National Sanitation Foundation (NSF) said that it kills 99.99 percent of bacteria including cryptosporidium and giardia."

The system also has a monitor to alert boat personnel if anything needs cleaning or if a lamp needs replacement. The only electricity required to run the system is 120 volts at 0.5 amps.

A differing system can also be installed for bathrooms. With the use of washable and reusable sediment cartridge, Meek said problems with silt and sediment build up will disappear. Another system prevents hard water buildup in ice machines.

So far, Meek said the 25 owners of the boats in which his company has installed the systems have been pleased.

"They said the water has been crystal clean, tastes great. Coffee and tea tastes much better with this and their laundry isn't stained," said Meek. "I had a guy tell me that he wouldn't take anything for this and he was the chief engineer. He could get a glass of water right out of the tap."

The cost of the water purification system is about **\$4,500** for an average size boat.

Since many companies are purchasing bottled water or cartridges for current systems that require more replacement, Meek said the cost of the system is relative.

Some companies who have elected to use the systems include Magnolia Marine Transport in Jackson, Miss. and Southern Towing in Memphis Tenn. For more information, call (731) 645-3222.

[NMA Comment: Water purification equipment of all types is readily available. What is lacking is a clear set of Coast Guard regulations that will require *periodic water testing* and, if required, installation and professional maintenance of necessary equipment on commercial vessels.]

ADDITIONAL INSIGHT REVEALS FURTHER PROBLEMS WITH POTABLE WATER

Onboard Systems Don't Always Provide Clean, Safe Water

[Source: By Capt. Kelly Sweeney, *Professional Mariner Magazine*, Oct./Nov. 2010, pgs 55, 56. ***Emphasis is ours!*** Capt. Sweeney holds the licenses of master (oceans, any gross tons) and master of towing vessels (oceans), and regularly sails on a wide variety of commercial vessels. He lives on an island near Seattle. You can contact him at captswweeney@professionalmariner.com.]

One morning while out on deck having my first cup of coffee, I started talking with Dan, a QMED (qualified member of the engine department) who was enjoying his usual breakfast of a cigarette and black coffee. We were on a ship working off the coast of Panama, so when conversation turned to the subject of coffee, I touted the fresh Panamanian brew the steward had brought aboard.

He agreed, but then added, "Regardless of the coffee and the machine, Kelly, it's good water that makes the best coffee and you won't find good water on merchant ships."

"What do you mean?" I asked. "The distilled water you engineers make on board is great."

He shook his head and said, "If the seawater we take on board is loaded with chemicals, distillation won't eliminate them. We have been making water within 12 miles of the coast, so the toxic pesticides and herbicides from the shore runoff and rivers ends up in our drinking water."

All of a sudden my coffee didn't taste so good.

Fresh water is vital on board, and making sure that the ship has an ample supply is one of the many important jobs the engineering department takes care of. Most seagoing vessels employ either an ***evaporator system*** that uses distillation or a pressurized screening/filtering system called ***reverse osmosis*** to convert seawater into potable water. In the evaporator system, seawater is heated and turned to steam, after which the fresh water condensate is collected and used for drinking, cooking, and washing on board. Reverse osmosis forces seawater through progressively finer filtering to produce fresh water. These two methods have been used for decades, but nevertheless ***have definite drawbacks and limitations***. For example, neither will remove volatile organic compounds such as benzene or trichloroethylene.

Another time when I was chief mate on an oceanographic ship working off the coast of California, we took on fresh water while docked in port. After nearly three weeks at sea doing coastal research, and with nearly 50 scientists and crew aboard, it wasn't long before we had to utilize our reverse osmosis system. One night, after a hard rainstorm, as we watched the local TV news in the lounge, the anchorman reported that the coastal waters had been declared unsafe for swimming because of the runoff. Hearing that, and remembering Dan's remarks, I thought to myself, "Great, the same water that's unfit to swim in we're making drinking water from."

As part of the Coast Guard and Maritime Transportation Act of 2004, the government established that the quality of potable water made on board merchant ships must meet the U.S. Centers for Disease Control (CDC) guidelines. These guidelines essentially deal with filtering and the addition of a disinfecting agent, like chlorine, to keep people from getting sick from water tainted with bacteria or viruses. They do not, however, address the amount of chemical contaminants found in the intake seawater, such as petrochemicals from industrial areas, agricultural runoff, crude oil or dispersants used during an oil spill.

Recently, water quality on commercial vessels was in the news when it was reported that Mobile Offshore Drilling Units (MODUs) working near the site of the *Deepwater Horizon* disaster were using seawater tainted with crude oil and the dispersant Corexit in their shipboard watermakers. Crude oil contains several dangerous carcinogenic components such as benzene and toluene, while Corexit has a large percentage of petroleum distillates, propylene glycol and sulfonic acid. According to the material data safety sheets (MSDS) for both crude oil and Corexit, neither is supposed to be taken internally. ***Yet reports from the Gulf pointed out that no one was testing for their presence in the drinking water on board MODUS making water in the contaminated Gulf of Mexico oil spill area.***

The word among mariners at the scene was that when confronted with the possibility of U.S. Coast Guard inspections of the water systems on the rigs, fresh water from U.S. ports on the Gulf Coast was quickly delivered. The fresh water from shoreside sources met not only CDC guidelines, but U.S. Environmental Protection Agency (EPA) regulations as well and exemplifies the double standard of water quality that exists on commercial vessels.

When an engineer takes on water at the dock in a U.S. port, he is assured that it meets EPA standards for chemical contaminants like benzene. When his ship uses its onboard watermaker to convert seawater to fresh water, however, those same standards don't need to be met. ***A U.S. Navy study conducted several years ago***

recommended that, because of the risk of chemical contaminants in the seawater used to make fresh water on board, the Navy should monitor and test for these impurities in the shipboard drinking water on its vessels. In my opinion, the same should hold true for U.S.-flagged commercial vessels.

There is no reason why mariners should have to drink water that is unsafe or unhealthful. To help solve chemical contamination issues, additional filters could easily be added to existing evaporation or reverse osmosis systems on board. As part of a commercial vessel company's International Safety Management procedures, regular maintenance or replacement of filters (in accordance with the water-maker manufacturer instructions) could be included. **In addition, onboard water testing for contaminants and periodic third-party testing by labs ashore would help guarantee that the quality of water made at sea meets EPA standards.**

In the days before the Jones Act was passed, merchant mariners were often not provided clean and sanitary potable water. **U.S. Code Title 46, Section 10902 is still U.S. law, and gives merchant mariners on inspected vessels the right to petition to have the vessel declared unseaworthy if they feel the water on board is unfit to drink.** The U.S. government has established that safe drinking water must not only be disinfected, but essentially free of chemical contaminants as well. **Thirty-six years after the Safe Drinking Water Act of 1974 was passed, its time that our government address the chemical contamination of drinking water made aboard ship.** The EPA standards for clean water should apply to all American citizens — including those who work on U.S.-flagged commercial vessels.

Till next time, I wish you all smooth sailin'.

REVIEW OF PUBLIC COMMENTS Summary of Letters to Potable Water Docket USCG-2005-20052

Drilling Contractors

1. International Association of Drilling Contractors (IADC). Design standards are hard to address in retrospect. Standards need to be tailored to individual systems and sources of supply.

[NMA Comment: This would have been easier if potable water regulations already existed.]

USPHS & CDC only have standards for cruise ships. IADC compiled helpful and comprehensive list of existing national and international standards. USCG should develop a Memorandum of Understanding (MOU) with other agencies (FDA, EPA, CDC, PHS) so regulations do not overlap and conflict. IADC members report that they do water testing "**on occasion**" (e.g., when water is taken from supply boats). There are problems using shore-based labs since there are time limits for samples to reach labs. Some members use commercially available on-board testing methods (**not specified**) and certified labs. They are unaware of any industry standard that could be used across a wide spectrum of vessels. IADC opposes including ISO standards 157.48-1 and 157.48-2 as recommended by USCG for "Incorporation by reference" for reasons that appear valid.

Pertinent question: Will the rulemaking be applied to foreign vessels in U.S. waters or to foreign-flag MODUS in U.S. Waters.

1A. Noble Drilling Services.

Most of its rigs are foreign flag and operate internationally. Only 5 are U.S.-flagged.

Quantity: Potable water storage on drilling rigs is for 60 gallons per man per day for 14 days.

Retrofitting new equipment on crowded rigs would be a problem.

Company uses 1965 vessel construction standards issued by USPHS that are similar to those for cruise ships.

Will regulations distinguish between vessels that use watermakers to generate their water supply?

Would be unreasonable for USCG to extend its regulations to foreign flag in U.S. waters?

USCG should harmonize its requirements with those of foreign countries.

Company tests weekly on board for chlorine, hardness, and Ph and quarterly at a shore-based lab to detect a number of metals, chlorides, and coliform bacteria. Company is considering portable equipment to detect coliform bacteria in several locations.

They believe that standards suggested by USCG are too restrictive and subjective.

[NMA Comment: We agree and suggest using the COMDTINST instead.]

1B. Diamond Offshore. International drilling contractor. "...A chlorine test (is) conducted prior to potable water being received from a vessel and a chlorine test of the vessel's stored potable water is conducted weekly.

Quarterly tests are conducted by sending samples to be analyzed for Coliform bacteria, metal, chlorides, etc. and are compared to the U.S. EPA's threshold limits."

"Qualified safety representatives aboard our MODUs utilize a commercial kit for chlorine testing. Quarterly samples are collected by these individuals and sent to a certified laboratory for analysis following the laboratory's protocol. The Chief Engineer oversees the process."

"We are unaware of an industry standard that is universally accepted with respect to water quality, design standards or adequate potable water supply." Does *not* believe the international standards cited by the Coast Guard should be incorporated by reference in any regulations.

Passenger Vessels

2. Passenger Vessel Association.

Correctly states that our original complaint was primarily directed at the towing and offshore service segments of the industry and on behalf of crewmembers.

Points to absence of complaints in the ferry sector.

USCG Marine Safety Center does *not* review plans for compliance with FDA regulations, but its review may address some potable water issues on an informational basis.

The USCG does review plans for potable water systems for compliance with engineering regulations for piping and pressure vessel safety.

The FDA reviews potable water plans on vessels engaged in interstate service.

[NMA Comment: Passenger vessels may see service in many different areas and services during their lifetime.]

Vessels in interstate service are periodically visited by the FDA.

[NMA Comment: We question to what extent, and does this refer to interstate or international service?]

Our knowledge of federal, state, and local requirements with regard to potable water integrity, testing, and oversight is incomplete. A NVIC would be helpful.

[NMA Comment: We question why no such NVIC exists when the Coast Guard itself has its internal COMDTINST.]

The letter lists the same "legitimate concerns" regarding the maintenance of potable water system and quality that our Association does. They generally agree that the international standards proposed by the Coast Guard are too onerous.

They believe that any action the Coast Guard takes should not duplicate the FDA CDC Vessel Sanitation Program.

[NMA Comment: We agree. The problem is that the FDA program has never been adequately enforced on many of the "limited tonnage" vessels our mariners work on. Some of these vessels include those inspected under 46 CFR Subchapter T.]

2A. River Barge Excursions. Uses city water exclusively on his vessel. Reported no problem with potable water on his vessel or on three major riverboats then operating on the Mississippi River system. Company is now out of business.

2B. Lindblad Expeditions. A small passenger vessel Subchapter K operator on the west coast. "Our vessels participate in the U.S. Centers for Disease Control (CDC) and are subject to health inspections at least twice annually. Additionally, we are subject to inspections by Health Canada during our port calls in British Columbia." "Our vessels comply with the guidelines in the Vessel Sanitation Program (VSP) Operations manual 2005." "(Our) vessels perform water quality tests on our potable water four times per month as required by the VSP." "All potable quality tests are done by ship's engineering personnel using test kits by Colilert. Tests are conducted to manufacturer's standards." "...U.S. passenger vessels which operate internationally and are subject to CDC should not fall within the scope of any proposed regulation.

[NMA Comment: We agree.]

Towing Vessels

3. American Waterways Operators.

AWO estimates there are 4,000 active towing vessels.

[NMA Comment: Latest USCG estimate at TSAC in Sept. 2010 was that there are 6,200 towing vessels.]

Mentions a number of “refuelers” that supply water to some vessels on the rivers, which is similar to supply boats furnishing water to drilling rigs, standby boats, and other vessels in the field.

[NMA Comment: We question why there is no requirement to check the delivery tanks.]

AWO believes the ongoing towing vessel inspection rulemaking project is the right vehicle to address potable water requirements.

[NMA Comment: We agree; however this was not done in the Notice of Proposed Rulemaking.]

3A. Southern Towing Company. A domestic river towboat operator. Companies distribute bottled water to crewmembers and use filtration systems for fresh water.

Offshore Supply Vessels

4. Offshore Marine Service Association.

OMSA wants clarification that “...the Coast Guard has the sole responsibility for potable water on inspected vessels.”

[NMA Comment: We believe that the action of Congress in 2004 gives the Coast Guard that authority.]

Suggests tasking an advisory committee to review existing standards and develop appropriate standards.

“While many companies regularly test the quality of vessel water supplies, testing is neither uniform nor universal.”

4A. Trico Marine Operators. (Company is now bankrupt)

“In the past, the Coast Guard deferred to the FDA in terms of reviewing vessel potable water systems.”

“Bottled water is an important adjunct, and in many inspected vessels, a primary source of drinking water. It must be considered in addition to tanks and (water) generation in making determination as to adequate supply of shipboard potable water.”

Other Comments to the Docket

5. International Water Treatment, NA. *Vendor* of non-chemical water treatment equipment used to treat potable water where there can be a potential risk of bacteria from shore supplied water. States they always install Ultraviolet equipment in series after their other equipment. Offers technical information.

6. Jennie S.C. Martin, Towboat Cook.

“Often water on board vessels irritates skin from showers.”

“Crew rooms lavatories do not have potable water dispensed through available spigots/faucets for teeth, face, and hands.”

“Testing supplies should be available on boats, galley sink first and foremost and heating temperatures regulated.”

“I was so proud to read in Waterways Journal of new statute being designed.”

“When a water system supplying any vessel has a bad test reading, the Coast Guard should be alerted as to which vessels it has supplied recently and notify boats for boil procedure.”

7. Lake Carriers Association.

“Various on-board and shoreside laboratory tests are conducted to determine continued potability.

The frequency and test methods used vary by individual company.

Companies have on-board test kits and/or send samples ashore for laboratory testing.”

[NMA Comment: Information on this testing was not specific.]

CONCLUSIONS

Our complaint to Congress was made on behalf of our “Limited Tonnage” mariners who still suffer with intolerable conditions.

Although the comments to the docket illustrate that the potential affect of new regulations covers a much wider audience than our “limited-tonnage” mariners, we believe the Coast Guard’s Marine Safety Directorate missed an excellent opportunity to move forward with this rulemaking when it failed to include a mention of its Congressional mandate in its Notice of Proposed Rulemaking for the Inspection of Towing Vessels. This is an area where the problem has been particularly acute. The “Bridging” program that involved an in-depth examination of all of the nation’s towing vessels would have provided an excellent opportunity for the Coast Guard to collect important data concerning the extent of this problem. Our Association brought this to their attention in our comments to the towing vessel inspection regulatory agenda in October 2011.

We take this opportunity to point out that the entire handling of the potable water issue reflects very poorly upon the Coast Guard’s Marine Safety Directorate and its lack of consideration for the health and welfare of our limited tonnage merchant mariners.