Abuse of Mariners Under the Two-Watch System

Report #R-370, Revision 4

Asserting our right “…to petition the Government for redress of grievances.”
Amendment 1, U.S. Constitution, Dec. 15, 1791
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**Report to Congress:**

*Abuse of Mariners Under the Two-Watch System.*

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ACRONYMS & EDITORIAL NOTES

Acronyms
ACBL = American Commercial Barge Lines (now American Commercial Lines, an inland towing company)
ALJ = Administrative Law Judge.
ATA = American Trucking Association.
AWO = American Waterways Operators. (The tug and barge industry’s trade association.)
BAC = Blood-Alcohol Concentration.
CFR = Code of Federal Regulation
COI = Certificate of Inspection
DOL = (U.S.) Department of Labor.
DOT = (U.S.) Department of Transportation.
FAA = Federal Aviation Administration.
FJA = Functional Job Analysis. (A 1982 Coast Guard Report on OSVs.)
FMCSA = Federal Motor Carrier Safety Administration.
FR = Federal Register
GRT = Gross Register Tons
GCMA = Gulf Coast Mariners Association. (Since Jan. 1, 2008 known as National Mariners Association.)
HVAC = Heating, Ventilation and Air Conditioning.
IO = Investigating Officer.
IMO = International Maritime Organization.
ITF = International Transport Workers Federation.
ITC = International Tonnage Convention.
MERPAC = Merchant Marine Personnel Advisory Committee. (A USCG Federal advisory committee.)
MISLE = Marine Information for Safety and Law Enforcement
MODU = Mobile Offshore Drilling Unit.
NOSAC = National Offshore Safety Advisory Committee. (A USCG Federal advisory committee.)
NMA = National Mariners Association.
NMC = National Maritime Center.
NPRM = Notice of Proposed Rulemaking
OCMI = Officer-in-Charge Marine Inspection.
OCS = Outer Continental Shelf.
OJT = On-the-Job training.
OSV = Offshore Supply Vessel. (A vessel inspected under 46 CFR Subchapter “L”)
OMSA = Offshore Marine Service Association. (The trade association for the offshore workboat industry.)
OSHA = Occupational Safety and Health Administration.
PIC = Person-in-Charge
QAT = Quality Action Team.
QMED = Qualified Member of the Engine Department.
RADM = Rear Admiral
SPV = Small Passenger Vessel (A vessel <100 GRT inspected under either 46 CFR Subchapter “K” or “T”).
TSA = Transportation Security Administration
TSAC = Towing Safety Advisory Committee. A Federal Advisory Committee established by Congress.
USCG = United States Coast Guard.
VADM = Vice-Admiral

Editorial Notes
1. **Type style:** We use *Bold, Italic, and Underlining* for emphasis throughout this report as well as the term **Emphasis is Ours!** when emphasizing points in letters and documents incorporated herein.
3. "Limited tonnage" — term that generally refers to both vessels and credentials that are limited to service on vessels of less than 1,600 gross tons.
CHAPTER 1
THE 12-HOUR RULE IN LAW AND REGULATION

Introduction

The National Mariners Association (NMA) prepared this report on behalf of approximately 126,000 limited-tonnage (1) “credentialed” (2) merchant mariners who serve on commercial vessels of less than 1,600 gross register tons (GRT). Credentialed mariners include “officers” such as Masters, Mates, Pilots, and Engineers and “ratings” like able seamen, tankermen, and oilers who have undergone training and testing, and “entry ratings” such as ordinary seamen, wipers, and food handlers. There also are training positions for unlicensed personnel on towing vessels known as apprentice mates or steersmen. In addition, many other mariners such as deckhands, deckineers, cooks, and unlicensed engineers serve aboard many industry vessels without any requirement to undergo ant training or hold a credential issued by the Coast Guard (USCG) or Transportation Security Administration (TSA).

[Vocabulary: (1) Limited tonnage = less than 1,600 gross tons. (2) Credential = previously known as either a license for an officer or a merchant mariner document (MMD) for a seaman.]

The vessels our mariners serve on include all 6,100 U.S.-flag tugs and towboats, most oilfield supply vessels (OSV), all small passenger vessels (SPV), all uninspected passenger vessels, and an assortment of other non-descript “workboats.”

Our Association’s concern for the safety, health, and welfare of these limited-tonnage mariners extends to all personnel who serve on these vessels even those not required to carry Coast Guard or TSA credentials. These individuals serve as a majority (1) of those who serve in America’s Merchant Marine and who are, for the most part, not adequately recognized, represented or appreciated. [1] Refer to NMA Report #R-353, Rev. 2.

In trying to protect our mariners from abuses of the “12-Hour Rule” (and, for “ratings,” the absence thereof) we followed the related issues of Watchstanding, Undermanning, and Hours-of-Service closely for many years in a number of reports addressed not only to our mariners but also to the Coast Guard, its parent agency the Department of Homeland Security, and to Congress as well. The latest revision of each of our Association’s reports as of the date of this report appears as “Index R” as an Appendix to this report. We cite these reports by number and will make electronic copies available to Members of Congress upon request and at no charge.

Individual Directors of our Association followed the “two-watch” or “12-Hour Rule” issue as concerned merchant mariners, for many years long before our Association was founded in 1999.

In its simplest form, the “12-Hour Rule” appears in 46 U. S. Code §8104. Although this report does not deal exclusively with towing vessels, Congress determined with particular clarity that… “On a vessel to which section 8904 of this title applies, an individual licensed to operate a towing vessel may not work for more than 12 hours in a consecutive 24-hour period except in an emergency.” The term “operate” as used in this context refers to a Master or Mate/Pilot of a towing vessel or an officer whose credential contains a “towing endorsement.”

Essentially, 46 U.S. Code §8104 is the most clear and direct expression of what is known as “the 12-Hour Rule.” Although the statute makes a simple, straightforward statement, it has been twisted, misinterpreted, and ignored for so many years that its true meaning is in question not only to many mariners but also to many in company management who continually bend it to best serve their purposes. We contend that the meaning of the statutes have become elusive to judges in Federal District and Appeals courts. [1] [1] Refer to Chapter 14 in this report.

Although the Coast Guard is charged by Congress with enforcing hours-of-service statutes, they interpret those statutes in their regulations and in administrative policies to the best of their ability subject to Congressional oversight. Nevertheless, our Association contends that the Coast Guard often has been unwilling to enforce it in a manner that fairly and satisfactorily protects our mariners and adequately serves the public.

“Coast Guard” is an Overly Broad Term

For merchant mariners, using the general term “Coast Guard” often involves painting with a very broad brush. Of its eleven “missions” tracked by the Department of Homeland Security (DHS, its parent agency, Marine Safety is the principal one that affects our merchant mariners. It is unique in that a branch of the military is placed in control of civilians that are not its employees. This leads to a number of problems discussed throughout this report. Enforcing Coast Guard regulations on our limited-tonnage merchant mariners falls under the purview of the Assistant Commandant for Marine Safety, Security, and Stewardship – although this terminology often changes. However, throughout this report, we will refer to this branch of the Coast Guard as the “Marine Safety Directorate.”
Outlining the Purpose of this Report

Our goal is to document our experiences as working mariners with problems we face with current watchstanding, manning, and hours-of service statutes and regulations. Our Association encourages Members of Congress to perform more intensive oversight of the Coast Guard and the Department of Homeland Security over these issues.

Since 1999, our Association dealt with the Coast Guard on “hours of service” and fatigue issues starting with the Offshore Oil Industry and, at first, were directed to deal with the National Offshore Safety Advisory Committee (NOSAC). We can point to a long history of dealing with not only NOSAC but also with the Towing Safety Advisory Committee (TSAC) and, to a lesser degree with the Merchant Marine Personnel Advisory Committee (MERPAC).

On Aug. 11, 2011, the Coast Guard published a Notice of Proposed Rulemaking (NPRM) on Towing Vessel Inspection. In that NPRM, the Coast Guard appeared to allow issues involving inadequate manning of towing vessels to take a back seat in their proposed new regulations. Consequently, we do not believe that our mariners will be well served by the regulations as proposed. We responded in detail to the Coast Guard Docket.\(^1\)

Unfortunately, the brevity of the comment period did not allow us sufficient time to reorganize and prioritize this material to the degree that this report allows. We hope that the updated and reorganized material presented here may help Members of Congress involved with oversight of Executive Branch agencies that deal with the U.S. Merchant Marine. \[^1\)Docket #USCG-2006-24412\]

Why Limit a Mariner’s Work Day to 12 Hours in any 24-Hour Period

First and foremost, the issue of safety both to our mariners and to the public is our foremost concern. It is unfortunate that officers on a vast majority of the nation’s 6,200 towing vessels without Certificates of Inspection (COI) have absolutely no assurance they will have enough crewmembers who are sufficiently experienced, trained, qualified, and properly rested available to serve as lookouts\(^2\) \[^2\)The requirement in 33 CFR §83.05. It is noteworthy that the requirement for a lookout is not supported by even a single “slot” in a vessel’s Certificate of Inspection.\]

Nor can the Coast Guard who sets manning standards have any such assurance of experience, training, qualification, or rest without knowledge of a vessel’s assignment. In fact, in some of the most horrific towing accidents, there was no lookout posted to assist the Master when he needed it most. However, the Coast Guard is ready to point its finger of blame at the Master or at the officer on watch without adequately ensuring that the vessel’s operating company provided adequate manning, training, or the opportunity for rest. We cite the accident reports on these very prominent towing accidents:

- **M/V Mauvilla** caused the Amtrak-Sunset Limited Accident at Bayou Canot, AL, on Sept. 22, 1993 leaving 45 railroad passengers and train crewmembers dead and over 100 persons injured. There was $10,000,000 damage to Amtrak equipment alone – some of which only returned to service in 2011. The officer on watch disregarded his radar that he had never been trained to operate, became lost in the fog, and failed to post a lookout as his tow approached an unidentified mainline railroad bridge in the fog.
- **M/V Emily S** whose tank barge Morris J. Berman spilled 620,000 gallons of oil on the beaches of San Juan, PR, on Jan. 16, 1994. The officer on watch posted no lookout to keep an eye on the tank barge in tow and never checked on the oil barge in tow while underway and failed to detect that it had broken loose.
- **M/V Robert Y. Love’s** tow struck the Interstate 40 bridge near Webbers Falls, OK on May 22, 2002 leaving 14 motorists dead, 4 more injured, and over $30,000,000 in damage. No lookout was posted in the pilothouse at the time of the accident.
- **M/V Evening Tide** and tank barge Bouchard 128 caused an 89,000 gallon oil spill in Buzzards Bay, MA, on Apr. 22, 2003. The officer on watch did not notify any other crewmember and posted no lookout when he left the pilothouse to adjust his towing hawser thereby allowing his tow to run aground.
- **M/V Mel Oliver & T/S Tintomara** collided in New Orleans on July 23, 2007 causing an oil spill of 283,000 gallons. The Pilot, who was not properly licensed fell asleep, and failed to post a proper lookout. The Mississippi River was closed to marine traffic for five days at a cost estimated at $300,000,000.

Other reasons to limit mariners’ hours-of-service include:

- To fulfill NTSB Recommendation #M-99-1: to “Establish within two years scientifically based hours-of-service regulations that set limits on hours of service, provide predictable work and rest schedules, and consider circadian rhythms and human sleep and rest requirements. DOT agencies regulating other modes of transportation have already enacted such regulations – but DHS has not pushed the Coast Guard to do the same.
• To effectively enforce existing 12-hour limitations and apply them to all mariners (both licensed and unlicensed) and move closer to NTSB-recommended “scientifically based” hours of service regulations. Adequate enforcement will involve more effective investigation of mariner complaints of hours-of-service abuse and a meaningful of all newly-required Official Logbooks by both Coast Guard and company officials.

• To limit fatigue to prevent casualties, improve the safety and health of our mariners, and improve workplace safety on American-flag inspected vessels. In its many years of supervision over “uninspected vessels(1)”, OSHA failed to take even the first step in regulating hours-of-service in the maritime workplace. [1]Refer to NMA Reports #R-202-B; #R-202-C, Rev. 2; #R-426, Rev. 1.]

• To require the Coast Guard to promulgate new manning regulations. The Crew Endurance Management System (CEMS) demonstration project, the precursor to such regulations(1) as required by Congress in 2004 was completed in December 2005. We have yet to see the scientific research conducted by the Coast Guard turned into meaningful regulatory proposals. [1]Refer to House Report #108-617, p. 18.]

• A 12-hour workday equates to an 84-hour workweek that is in sharp contrast to a normal “shoreside” workday of 8 hours and a 40-hour workweek. Most “upper-level” mariners on large ships have an 8-hour workday with “overtime” pay for additional work. Even the most recent STCW amendments(1) have extended the required hours-of-rest by seven hours a week – the equivalent of 11 hours per day – and require accurate reporting of these hours. [1]Effective Jan. 1, 2012.]

• Our mariners lack the same wage and overtime protections as shoreside workers, and are open to greater exploitation.

• A 12-hour workday, if properly managed, allows adequate time for sleeping, eating, personal hygiene, communication with home and family, and relaxation.

• For many years, the Coast Guard distinguished between the crewing of “12-hour” and “24-hour” boats in the offshore oil industry by a statement on the vessel’s Certificates of Inspection. Unfortunately, many boat owners still lease a boat for 24-hour service but crew it with only enough personnel for 12 hours – and pocket the savings at the expense of our mariners’ health and welfare. The Coast Guard has not curbed this deception and fraud that has victimized our mariners for years.

• Enforcing new “Official Logbooks” requirements on all inspected vessels(1) to monitor hours-of-service requirements can result in more effective investigation of widespread work-hour abuses but only if properly enforced! [1]46 U.S. Code §11304.]

Unlicensed Mariners (aka “Ratings”) Have no Effective Hours-of-Service Protection

In May 2000, in response to widespread mariner complaints, our Association collected and published(1) documentary evidence of numerous violations by marine employers of existing work-hour statutes that were supposed to but failed to protect licensed mariners. [1]Refer to NMA Report #R-201.]

These were reported violations of the statutes the Coast Guard had full authority to enforce. However, since the Coast Guard refused to investigate our allegations, we later reported many of these abuses in 15 volumes of information DHS Inspector General’s office in 2007. [1]46 U.S. Code §8104 and regulations based on those statutes.]

We note that there are gaps in existing statutes and regulations as well as widespread lack of enforcement that allows maritime employers to exploit unlicensed crewmembers without regard to the number of hours they work each day. For example, the American Waterways Operators (AWO), the tug and barge industry trade association, recommends in its Responsible Carrier Program (RCP) that 15 hours is a reasonable work day for unlicensed personnel including deckhands, “deckineers”, tankermen, unlicensed engineers and cooks. We strongly disagree!

In reviewing existing regulations, we learned that the Coast Guard does not prescribe any work-hour limits for these individuals on inland vessels. We also determined that the Department of Labor had no work-hour limitation regulations that governed unlicensed personnel on uninspected towing vessels or other uninspected vessels. The same situation also exists on many other commercial vessels manned by limited tonnage mariners. We believe the following Coast Guard response (below) puts the matter squarely in the hands of Congress to amend existing statutes.

Our Association received a letter from CAPT J. D. Sarubbi, Chief Office of Compliance dated Oct. 18, 2001 stating:

“As you note in your letter, the Coast Guard does not prescribe regulations governing work hour limitations for unlicensed crewmembers aboard an uninspected towing vessel operating on inland waters and western rivers. While the Coast Guard frequently promulrates policies(1) to interpret existing regulations, to establish new policy in the absence of a law would be prohibited by the Administrative Procedures Act. Where pertinent regulations are not in place, we rely on numerous non-regulatory solutions such as the recent fatigue alertness campaign we have embarked on with the American Waterway Operators, and the AWO Responsible Carrier Program.”
Very simply, non-regulatory solutions have no teeth and are not effective.

Our Association believes that the American Waterways Operators (AWO) could and should have provided leadership in the towing sector of the industry by calling for a 12-hour workday but consistently failed to do so. Consequently, 10 years later, they still find nothing wrong with “recommending” 15-hour workday for “ratings” employed by their member companies. Yet, even this “recommendation” is not binding on member companies to say nothing of the rest of the towing industry. “Recommendations” of this nature fuel personnel retention problems in any industry that supports unconscionable work hours.

The Coast Guard, although it superintends over 126,000 limited-tonnage merchant mariners, refused to even consider our position on limiting hours-of-service to 12-hours per day. Nor do we believe that Coast Guard officials adequately informed Congress of past exploitation we brought to the attention of the DHS. Consequently, we assert that these issues are ripe for closer Congressional oversight.

Our Association’s Report #R-201 contains 57 letters from mariners that cited many 12-hour rule violations to illustrate rampant work-hour abuse. We sent this compilation of incidents to Admiral Pluta, the Eighth District Commander and distributed it widely throughout the upper echelons of Coast Guard officials and to members of three Coast Guard advisory committees. Yet the Admiral Pluta ignored our report and took no effective action to respond to these complaints either as Eighth District Commander or after his promotion to Assistant Commandant for Marine Safety.

Even though our mariner complaints dealt with exploiting the largest sector of active personnel in the U.S. Merchant Marine on both in inland and offshore waters, the Coast Guard “tasked” our work-hour complaints to the National Offshore Safety Advisory Committee (NOSAC) instead of a forthright investigation of our allegations by interviewing the mariners whose names we offered make available to investigators in confidence.

At the April 2002 NOSAC meeting at Coast Guard Headquarters, the NOSAC “work group” Chairman attempted to table our complaints. This led to an ugly confrontation, the resignation of the NOSAC “work group” Chairman, and a face-to-face public confrontation with Admiral Pluta who shrugged off our “dereliction of duty” accusation by failing to investigate and resolve complaints brought to him two years earlier.

Although Admiral Pluta did agree to look into the matter, this turned out to be a meaningless public relations gesture. In a letter dated Dec. 4, 2002, Captain M. W. Brown of his Marine Safety staff brushed us off by stating in part:

“As promised by RADM Pluta, members of my staff examined methods of investigating reported violations in [your Report #R-201]. Due to the age of the reports and lack of attribution, we were unable to resolve any of the allegations...”

“Research conducted by Coast Guard Headquarters legal staff revealed that the Coast Guard lacks the requisite statutory authority to generate regulations addressing work-hours for unlicensed mariners working aboard uninspected towing vessels. Based on this, the Coast Guard cannot initiate a rulemaking project.”

“Understanding that the Coast Guard lacks specific authority to carry out this rulemaking petition, you have requested that we seek a Legislative Change Proposal (LCP) to provide for work-hour restrictions for unlicensed crewmembers serving aboard uninspected towing vessels. During the course of our normal LCP evaluation cycle, we will consider whether or not to include your particular request. However, it must be mentioned that we need to be extremely selective in choosing LCPs (to) go forward. We must consider the resource implications as well as other stakeholders and agencies and, frankly, the likelihood that our request will succeed. Please keep in mind that you may pursue such requests on your own also.”

After awkwardly fumbling with the assigned “task” for a year and a half, NOSAC eventually – and correctly – concluded that their Advisory Committee lacked the authority to either investigate or resolve our complaints. We assert that Admiral Pluta’s Marine Safety staff sabotaged and covered up our complaints and that this inaction pervades the Marine Safety Directorate to this day.

Following this letter, we approached the staff of the House Coast Guard and Maritime Transportation Subcommittee and in March 2007, our Association asked Congress to amend 46 U.S. Code §8104 to limit the hours of work for ALL mariners serving on any U.S.-flag commercial vessel to 12 hours in any 24-hour period.

Following Capt. Brown’s letter, we approached the staff of the House Coast Guard and Maritime Transportation Subcommittee and in March 2007, our Association asked Congress to amend 46 U.S. Code §8104 to limit the hours of work for ALL mariners serving on any U.S.-flag commercial vessel to 12 hours in any 24-hour period.
However, the Coast Guard on a request by Congress, furnished a number of “studies” that eventually focused on “crew endurance” and a new Crew Endurance Management System (CEMS) they put in place for their own personnel in 2006. Aside from the valid “scientific findings” reported in the CEMS program, many of our mariners see CEMS as little more than a smokescreen used by their employers to hide hours-of-service abuses and to push the CEMS program as a substitute for necessary manning issues reform as reported in Chapter 12.

This Report Reiterates a Previous Request to Congress

Our Association respectfully restates a previous request\(^{(1)}\) to Congress to establish a maximum 12-hour workday for every merchant mariner including both officers and ratings. \(^{(1)}\)Refer to NMA Report #R-350, Rev. 6, Issues “H” & “K”.

[NMA request for Congressional Action: Since the Coast Guard has not established scientifically based hours-of-service regulations, we ask Congress to amend 46 U.S. Code §8104(h) and other statutes if necessary to ensure an effective limit of 12-hours of work in any 24-hour period applicable to all officers and unlicensed mariners serving on every U.S.-flag inspected vessel and provide for appropriate statutory penalties.]
CHAPTER 2
THE 12-HOUR RULE AND COAST GUARD POLICY

Statutes, Regulations and Coast Guard Policy

Congress requires the Coast Guard to establish *safe-manning standards* for both inspected and uninspected vessels. This requirement appears in the U.S. Code and reflects domestic law as well as treaties and agreements reached with other nations and international organizations such as the International Maritime Organization and the International Labour Organization.

Based on the *statutes* that appear in the U.S. Code, the Coast Guard as an Executive Branch agency that *administers* maritime statutes, further refines and explains these statutes in *regulations* that reflect their understanding of the statute as acknowledged by input from members of the public in the form of federal regulations. These regulations are announced first as “proposed rules” in the Federal Register (FR), and are further refined as “*final rules*” before they take their place in the Code of Federal Regulations (CFR) where they have the force of law.

The Coast Guard’s Marine Safety Directorate also interprets statutes and regulations and then organizes and explains how it plans to administer the programs that enforce them in the *Marine Safety Manual* (MSM). This multiple volume manual outlines and explains various programs to its own personnel as well as to interested members of the public. On occasion, the Coast Guard issues *Policy Letters* such as, for example, Policy Letter G-MOC #04-00, prepared by staff members and signed by the Chief of the Marine Safety Directorate at USCG Headquarters. On Sept. 11, 2000, after months of work, RADM Robert North, then Chief of Marine Safety issued this particular policy letter to define and clarify work-hour related issues for the benefit of our limited tonnage mariners, their employers, and to inform local USCG marine safety units. On April 26, 2001, the issued Change 1 to that policy letter as reprinted below.

Background of Policy Letter G-MOC #4-00, Change 1

In May 2000, our Association, with the help of the AFL-CIO and four national maritime unions, brought the abusive work-hour situation our mariners faced to the attention of the Marine Safety Directorate by means of our widely disseminated report titled Mariners Speak Out on Violation of the 12-Hour Work Day.\(^{(1)}\) The hours-of-service abuses faced by our mariners is one of the most important single issues tackled by our Association since its founding in April 1999.\(^{(1)}\) Also called “The Yellow Book” and subsequently became NMA Report #R-201.

Our Association found that the new policy letter presented by RADM Robert North at a meeting of the Towing Safety Advisory Committee in Memphis on Sept. 14, 2000 was a good start in clarifying existing laws, regulations, and policies not only for towing vessels but for most other vessels crewed by our mariners using a “two-watch” system. The policy letter told our mariners, their employers, as well as Coast Guard enforcement personnel exactly how the Marine Safety Directorate interpreted the existing statutes and regulations concerning the 12-hour workday and outlined the protections mariners have in reporting violations of laws and regulations.

Over the course of our efforts to highlight the widespread practice *where owners and operating companies work their mariners beyond the legally-allowed time limits both offshore and on the inland waterways*, we first contacted many Coast Guard officials and later contacted members of House and Senate oversight committees.

We believed that the Marine Safety Directorate made an important step by interpreting statutes, regulations, and policies for all to see. Although we thought Coast Guard officials intended to enforce this policy letter, we soon became disillusioned with their lack of enforcement and their failure to recognize how other interpretations slipped in by some employers and local Coast Guard units detracted from this policy document. Nevertheless, we urged every mariner to read this policy letter so they would have an important tool to determine whether he or she is being asked to work beyond the legally prescribed time limits.

The Coast Guard Marine Safety Directorate Abandoned Our Mariners

Although it is clear the Marine Safety Directorate studied the 12-hour rule issues, the sad part of the story is that they showed much less commitment to enforcing statutory work hour limits than RADM Robert North’s staff showed in drafting the policy letter. As a result, as time passed, it appeared that presenting the policy letter at the TSAC meeting in Memphis in September 2000 was little more than a public relations gesture.

Unfortunately, working beyond the statutory work hour limits places a working mariner “between a rock and a hard place” between the Coast Guard and his employer. This is because the status of most limited tonnage mariners
who do not work under a union contract is that of an “employee at will.” An employer can terminate an officer’s employment for any reason (or no reason at all) if he refuses to “cooperate” and work beyond the statutory 12-hour limit his assignment may require. Most “ratings” have no hours-of-service protections whatsoever. The Coast Guard can threaten real enforcement to mariners who violate the law. They have the tools at hand to make their threats meaningful by placing a mariner’s credential and his livelihood on the line for any infraction. Using Administrative Law that is unfamiliar to most mariners in a formal courtroom setting with a robed Administrative Law Judges (ALJ) and Coast Guard Investigating Officers (IO) appears to focus the full power of the state on an individual mariner. On the other hand, owners and operating companies that may be equally at fault, face civil penalty procedures that are often viewed as a bump in the road and dismissed as a “cost of doing business.”

In some areas, local Coast Guard units interpret the 12-hour rule as if it referred in some manner to the vessel’s “underway” time. However, we are unable to find any such interpretation in policy letter G-MOC #04-00, Change 1 or in any law or regulation cited in the references.

We caution our credentialed mariners to document every instance where forced or enticed to work beyond the legal 12 hour limit. Leaving a “paper trail” in their vessel’s official logbook as the law now requires is the right thing to do. However, from a practical standpoint this logbook remains the property of the employer and such evidence placed there can cost “an employee at will” his job and his livelihood with no recourse. If our mariners notify Coast Guard investigators about such violations, a statute is supposed to protect your identity. [(1) 46 U.S. Code §11304.  (2) 46 U.S. Code §3315(b).] In actual practice, this is not always possible! Since the new “whistleblower protection” protection is difficult to understand, refer to NMA Report #R-210, Rev. 2.]

U.S. Coast Guard Policy Letter G-MOC 4-00, Rev-1
Subject: Watchkeeping and Work-Hour Limitations on Towing Vessels, Offshore Supply Vessels (OSV) and Crewboats Utilizing a Two Watch System

References:
(a) Title 46 United States Code (46 USC) Part F - Manning of Vessels
(b) Title 46 Code of Federal Regulations (46 CFR) Part 15 - Manning Requirements
(c) USCG Marine Safety Manual, Volume III, Chapters 20 through 26 - Marine Industry Personnel
(d) Title 46 United States Code (46 USC) §2114 - Protection of Seamen Against Discrimination
(e) Title 46 United States Code (46 USC) §3315 - Disclosure of Defect & Protection of Informants

1. Purpose

The purpose of this policy letter is to, in one document, summarize and clarify references (a) – (e) as they pertain to work-hour limitations and watchkeeping for licensed operators and other mariners on towing vessels, offshore supply vessels and crew boats utilizing a two watch system. Related to this subject is the concern that exceeding work-hour limitations leads to the diminution of crew alertness that could contribute to human factors type accidents. The problems associated with diminution of crew alertness are of particular concern even when operating within the constraints of the law. The Coast Guard is currently conducting research on improving crew alertness by identifying the extent to which various aspects of shipboard life/operations may be contributing to the diminution of crew alertness and subsequent unsafe conditions. This policy will further clarify the responsibilities of mariners, vessel owners, operators, masters and the Coast Guard concerning crew alertness and actions necessary to prevent casualties as a result of fatigue. Finally, this policy summarizes the protections afforded to individuals who report to the Coast Guard on violations of the applicable statutes.

2. Definitions [Emphasis is ours]

The following definitions are consistent with previous Coast Guard policies or Coast Guard regulations.

a. Emergency is an unforeseen development that imposes an immediate hazard to the safety of the vessel, the passengers, the crew, the cargo, property, or the marine environment, requiring urgent action to remove or mitigate the hazard.

b. Overriding operational conditions are circumstances in which essential vessel work cannot be delayed for safety or environmental reasons, or could not reasonably have been anticipated at the commencement of the voyage.

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c. **Rest** means a period of time during which the person concerned is off duty, is not performing work, including administrative tasks such as chart corrections or preparation of port entry documents, and **is allowed to sleep without being interrupted**.

d. **Travel time** to a vessel is considered to be **neutral time** as it is normally not considered to be “rest,” “off-duty,” or “work” time, but all relevant circumstances should be considered in evaluating whether a mariner complies with the applicable “rest” required by STCW or “off-duty” requirements specified in 46 U.S.C. §8104(a).

e. **Watch** is activity related to the direct performance of vessel operations, whether deck or engine, where such operations would routinely be controlled and performed in a scheduled and fixed rotation. The performance of maintenance or work necessary to the vessel’s safe operation on a daily basis does not in itself constitute the establishment of a watch. However, the latter **does count towards the hours of work that can be required by an employer**.

f. **Work** is any activity that is performed on behalf of a vessel, its crew, its cargo, or the vessel’s owner or operator. This includes standing watches, performing maintenance on the vessel or its appliances, unloading cargo, or performing administrative tasks, whether underway or at the dock.

The definitions above for “overriding operational conditions” and “rest” are used in situations where the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW), 1978, as amended in 1995, applies.

3. Watchkeeping, Work-hour Limitations, and Manning Requirements [Emphasis is ours]

a. Watchkeeping requirements, work-hour limitations and manning requirements for mariners on towing vessels, offshore supply vessels and crewboats, as applicable, are comprehensively addressed in references (a) – (c). As a ready reference, enclosure (1) summarizes these requirements.

b. In establishing the safe manning level for an inspected vessel, the Coast Guard Officer in Charge, Marine Inspection (OCMI) must consider many factors in addition to the statutory and regulatory requirements, including reasonable work-hour limits. **Owners and operators who establish manning levels on uninspected vessels must consider such limits as well.** These factors are specifically outlined in reference (c). In addition, OCMI's may increase the manning of a particular vessel if, through the course of a casualty or other type of investigation, an increase is deemed necessary for the safe operation of the vessel.

c. The law that addresses watchkeeping and working hours on the subject vessels is found in reference (a), specifically 46 U.S.C. §8104. **This section of the law includes requirements for officers to have an off-duty period before taking charge of the deck watch prior to departing port, watch rotations on vessels, and specific work-hour provisions for various types of vessels.**

d. **46 U.S.C. §8104(d) requires merchant vessels of 100 gross tons and above, when at sea, to be manned for a three-watch system, and mariners shall be kept on duty successively to perform ordinary work incident to the operation and management of the vessel. This section of the law also states that a mariner cannot be required to work for more than 8 hours in one day. There are certain exceptions to the work-hour limitations relevant to the docking/undocking, conducting emergency drills, actual emergency situations or overriding operational conditions that compromise the safety of the vessel and its passengers and crew (See 46 U.S.C. §8104(f)) in which a mariner can be required to work more than 8 hours in a day. Mariners subject to 46 U.S.C. §8104(d) can consent to work in excess of 8 hours in a day.**

e. **46 U.S.C. §8104(g) permits licensed individuals and crewmembers of towing vessels, offshore supply vessels, and barges, when engaged on voyages of less than 600 nautical miles, when at sea, to be divided into at least 2 watches. The Coast Guard interprets this section of the law to mean that a mariner can be scheduled to work 12 hours in any consecutive 24-hour period, provided the mariner consents to work more than 8 hours in a day.**

f. **46 U.S.C. §8104(h) establishes that licensed operators of towing vessels subject to 46 U.S.C. §8904 may not work in excess of 12 hours in any consecutive 24-hour period, except in an emergency.**
4. STCW [Emphasis is ours!]

In addition to the work-hour limitation requirements outlined above, STCW adds specific rest requirements for vessels operating outside the boundary line (12 miles in the Gulf of Mexico). As a general matter, U.S. regulations impose the STCW requirements on all commercial seagoing vessels (as defined in 46 CFR §15.1101(a)(3)) in international service and to all commercial seagoing vessels of 200 gross register tons and above on domestic and international voyages. The STCW addresses both short-term and long-term rest requirements for watchkeeping personnel.

a. Persons assigned to navigational or engineering watches shall receive a minimum of 10 hours rest in any 24-hour period.
b. The hours of rest may be divided into no more than two periods, of which one must be at least 6 hours in length.
c. Rest periods may be interrupted in case of emergency, drill, or other overriding operational conditions.
d. The minimum 10-hour rest period may be reduced to not less than 6 consecutive hours as long as no reduction extends beyond 2 days and not less than 70 hours of rest are provided in each 7-day period.
e. The minimum period of rest required may not be devoted to watchkeeping or other duties.
f. Watchkeeping personnel remain subject to the work-hour limits and exceptions found in reference (a).

5. Responsibilities [Emphasis is ours!]

Mariners, owners/operators, and the Coast Guard have separate responsibilities for compliance with, and enforcement of, the work-hour limitation laws. The subparagraphs below provide general guidance regarding the responsibility of each party.

a. **Mariners have an individual responsibility to obey the law and are also responsible for reporting suspected watchkeeping and work-hour violations to the Coast Guard.** The master of a vessel is ultimately responsible for the safety of the vessel, passengers and crew, cargo, and the environment. To carry out this responsibility the master must ensure that he/she and the crew are properly rested and complying with the law. The master must communicate with the owner/operator to ensure realistic goals are set. If management exerts pressure to exceed the law, the mariner is encouraged to report this situation to the local Coast Guard OCMI. Paragraph 6 of this policy letter describes protections afforded to mariners when reporting violations to the OCMI. While the definition of work includes activities, which are required for the vessel to be operated safely, a minimal amount of de minimis activities would generally not be considered a violation of this rule. Examples of such de minimis activities include: those, which are necessary to ensure continued safe operation of the vessel (i.e. information exchange at watch change); safety meetings; and drills and training, which can only be conducted underway.

b. **Owners/operators, like mariners, are responsible for obeying the law.** Companies should ensure employees are informed of the law and educated regarding safety concerns of not getting adequate rest. They should be aware of operational demands and work hours required to complete expected tasks on board their vessels. 46 U.S.C. §8104(i) states that “the owner, charterer, or managing operator of a vessel on which a violation of subsection (c), (d), (e) or (h) of this section occurs is liable to the government for a civil penalty....” thus pointing out their responsibility to ensure compliance. They should provide unambiguous guidelines to the master regarding expectations to comply with safety requirements and the law when these are in conflict with operational demands.

c. Finally, the **Coast Guard** is charged with enforcement of the law. The Coast Guard can initiate an investigation based on confidential information provided by mariners during the vessel inspection process, anonymous tips called into a Coast Guard Marine Safety Office, or through the findings of a Coast Guard marine casualty investigation. The latter may also bring consequences for the mariners involved or the vessel’s owner/operators. When the Coast Guard determines that a casualty occurred because of a violation of law, an appropriate action, a suspension and revocation proceeding, and/or a civil penalty may be recommended. However, as described below, protections exist for the mariner reporting deficiencies or illegal operations. OCMIs should ensure that all responsible parties within their area of responsibility are aware of the requirements of the law and particularly the importance that rest plays in ensuring safe operations.

*It should be noted that the Coast Guard, by 46 CFR §5.71, is prohibited from exercising its authority for the purposes of favoring any party to a maritime labor controversy.* However, if a situation is encountered that affects...
the safety of a vessel or persons on board, the Coast Guard will initiate an investigation and pursue appropriate action when a violation of statute or regulation is discovered. A particular situation that has generated confusion and concern involves the requirement found in 46 U.S.C. §8104(a), which states that an officer taking charge of the deck watch on a vessel leaving port must have at least 6 hours of off-duty time in the 12 hours immediately before leaving port. While an owner/operator cannot be held accountable for the time a mariner has off, they are responsible for the time that an individual is on the dock or on the vessel while in port, and can be expected to verify that the individual has had an opportunity for rest regardless of where he/she has been prior to performing the assigned duties. The owner/operator cannot expect a mariner to participate in extensive preparations for getting underway and also be rested enough to take the navigation watch without providing an opportunity for the minimum off-duty time required by 46 U.S.C. §8104(a). Similarly, the mariner is responsible for arriving at the vessel properly rested.

6. Protections [Emphasis is ours]

The Coast Guard has historically depended on individuals involved with the maritime industry to report violations or unsafe vessel conditions when they occur. In the absence of mariner reporting, the Coast Guard is limited to discovering these types of violations through casualty investigations, or by chance during a scheduled inspection. To prevent retaliation for reporting violations to the Coast Guard, Congress enacted specific protections for mariners that make reports of violations to the Coast Guard. The following cites represent the obligation and protections afforded to mariners for reporting violations of the law or regulations to the Coast Guard.

a. 46 U.S.C. §2114 provides protection to seamen against any form of discrimination, including discharge, for reporting a violation of any law or regulation issued under the authority of Title 46.

b. 46 U.S.C. §3315(a) requires licensed officers serving on inspected vessels to assist the Coast Guard in the inspection of their vessels as well as point out defects and imperfections known to them. This includes any violations of work or watch standing limitations.

c. 46 U.S.C. §3315(b) prohibits any official of the Coast Guard from disclosing the identity of any individual that provides information on vessel defects, imperfections, and overall safety of an inspected vessel on which he or she is serving. This includes information on watchkeeping and work hours.

d. The identity of any mariner who reports an unsafe condition on any vessel, inspected or uninspected, is also protected in accordance with the Freedom of Information Act (FOIA) exemptions and Department of Transportation (DOT) regulations (49 CFR 7).

[Signed by CAPT J. D. Sarubbi. Distributed to all District (m) offices; all MSOs/MSDs/Activities; all Regional Examination Centers; and the National Maritime Center NMC(4c).]
CHAPTER 3
FATIGUE AND SLEEP ISSUES

The Coast Guard’s “Split Personality”

Nowhere does the Coast Guard demonstrate its “split personality” more than it does in its approach to the 2011 Notice of Proposed Rulemaking (NPRM) on Inspection of Towing Vessels than it does in the following statement: “We are considering including hours of service standards and crew endurance management requirements but are not proposing such requirements at this time.” [1]

Instead, the Marine Safety Directorate posed 18 questions mostly directed to management that they should already have asked in the seven long years they spent developing the proposed rules. [2] [1]76 FR 49979, Aug. 11, 2011. [2]76 FR 49991-49992

Coast Guard Headquarters Draggs its Feet

The National Transportation Safety Board (NTSB) first brought the issue of “hours of service” to the attention of all Department of Transportation modal transportation agencies including the Coast Guard in 1989.

Ten years later, Coast Guard Chief of Staff VADM Timothy W. Josiah responded to a reintroduction of the NTSB “recommendations” and briefly summarized the Coast Guard’s progress during the past 10 years. However, in the final paragraph of his letter, VADM Josiah stated “…while the complexities of the maritime transportation system preclude the Coast Guard from establishing scientifically based hours of service at this time, progress is being made at multiple levels, internationally as well as domestically, to rationally frame and address the fatigue issue on commercial vessels.”

On Nov. 17, 2000, our Association, in a letter to NTSB Chairman Jim Hall noted the Coast Guard’s slow pace, lack of progress and lack of interest in promulgating scientifically-based hours of service regulations for the maritime industry and especially that portion of the industry that used the “two-watch” system – centered around our limited-tonnage mariners. We witnessed Coast Guard intransigence on this issue in our attempts to work with NOSAC on hours-of-service and manning issues during this period.

Finally, our Association switched its attention from the Coast Guard and focused on Congress where our complaints were starting to receive increased consideration. In September 2004, Congress sought results and requested a final report on the Coast Guard’s research work that centered on a “Demonstration Project” on its Crew Endurance Management System (CEMS). The report was issued in 2006. [1] Coast Guard research on sleep and fatigue continued so that in August 2011 the agency presented a strong report on their conclusions on fatigue and sleep research as part of the proposed rule on Towing Vessel Inspection. [1]Refer to NMA Report #R-401-D.

Following VADM Josiah’s lackluster reply to the NTSB, our Association concentrated on reviewing and reporting on many accidents that clearly related to mariner fatigue. Although the Coast Guard after May 2008 limited our access to accident reports following the DHS OIG report that was critical of their investigations, [1] we urge Congress to clearly limit the hours-of-service on all inspected vessels to 12 hours in any consecutive 24-hour period. [1]Refer to NMA Report #R-429-M.

The Coast Guard Excels in Researching Hours-of-Service Issues

At the same time that Headquarters was dragging its feet on creating “scientifically based hours of service regulations” their research and development staff performed a creditable (and credible) job of research on sleep and fatigue issues that they presented in the preamble to the proposed rule on Towing Vessel Inspection in August 2011 that we reprinted below. Yet, the Marine Safety Directorate succeeded in turning the project around without making a meaningful recommendation on this important subject that should have been one of the most significant parts of the proposed rule.

Coast Guard Research on Sleep and Fatigue


The Coast Guard offers the following research and additional information regarding hours of service standards and requirements for managing crew endurance, the ability for a crewmember to maintain performance within safety limits while enduring job-related physiological and psychological challenges in order to inform public comment related to these issues:
The Coast Guard recognizes that the issue of operator fatigue is not new, nor is it an issue confined solely to the maritime industry. In 1989, the National Transportation Safety Board (NTSB) first addressed the issue of operator fatigue in three recommendations presented to the Secretary of Transportation and called for research, education, and revisions to existing regulations. In 1990, NTSB added these recommendations to its Most Wanted List. In 1999, NTSB sponsored a safety study that determined that operator fatigue remained widespread throughout the transportation industry. In 2006, NTSB reaffirmed their recommendation to the regulatory bodies for the Aviation, Marine, and Pipeline Industries to establish scientifically based hours of service regulations that set limits on hours of service, provide predictable work and rest schedules, and consider human sleep and rest requirements. As part of this recommendation, NTSB stated that “operating a vehicle without the operator’s having adequate rest, in any mode of transportation, presents an unnecessary risk to the traveling public.” These NTSB studies, recommendations, and other documents may be found at URL: http://www.ntsb.gov.

Sleep Loss and Its Consequences

In most work environments, many pressures and stressors impact workers’ quality of life and performance. One important yet underestimated stressor is daily restriction of sleep. [See National Sleep Foundation, “Sleep in America” poll. URL: http://www.sleepfoundation.org (2007)].

In many jobs, daily sleep restriction is unavoidable. Some professions such as health care, security, and transportation require working at night and, often, long work hours of 12 hours or more per day. In these fields, the effect of daily sleep loss on performance is crucial to safety. Often, in response to the daily workplace stressors, workers tend to stretch their capacity and compromise their nightly sleep, thus becoming chronically sleep deprived.

While the need for sleep varies considerably between individuals, studies show that for adults an average length of sleep between 7 and 8½ hours per night provides physiological and cognitive resources to support normal health and performance. Physiologically, at least two processes regulate sleep, one homeostatic and the other cyclic (also known as circadian) with a period of about 24 hours per day. The homeostatic process regulates energy availability and depends on the daily duration of sleep and of wakefulness; the need to sleep increases as wakefulness continues uninterrupted. The circadian process, also referred to as the body clock, regulates the time of the day when sleep is scheduled and also impacts the restoration and availability of cellular energy. In brief, the body clock abhors uncertainty; it prefers stable, daily sleep beginning at the same time(s). [See Paula Alhola & Paivi Polo-Kantola, “Sleep Deprivation: Impact on Cognitive Performance.” Neuropsychiatric Diseases and Treatment, 553-567, Vol. 5 (2007)].

These studies show that both of these processes work well with daily sleep periods lasting at least 7 uninterrupted hours, where that sleep occurs at consistent times from day to day. Additionally, significant disruptions of the timing of daily sleep onset, or restriction of the duration of sleep below 7 uninterrupted hours per day, result in significant impacts on human physiology, health, and performance.

While there are many unanswered questions regarding the functions of sleep and the effects of sleep loss, there is no question that sleep is critical for body restitution, like energy conservation, thermoregulation, and tissue recovery. In addition, a now well-documented body of research demonstrates that sleep is essential for cognitive performance, especially memory consolidation.

Daily sleep loss, instead, activates the sympathetic nervous system, causing release of adrenalin and cortisol, resulting in stress and impairments of the immune system and metabolism. Daily sleep loss is now linked with cellular insulin resistance, thus predisposing people who experience sleep restriction to abnormal glucose metabolism and diminished energy production. People who experience daily sleep loss usually suffer a decline in cognitive performance and changes in mood.

Performance Standards and Protection of Situational Awareness

Based on the Coast Guard’s current research, the Coast Guard is considering requirements that would permit crewmembers on towing vessels: (a) Sufficient time off to obtain at least 8 uninterrupted hours of sleep or at least 7 hours of uninterrupted sleep and an additional sleep period in every 24 hour period; and (b) the means to prevent the disruption of circadian rhythms. Such standards would promote the daily restoration of crewmember cognitive and physiological resources and the protection of crewmember situational awareness and decision-making abilities.

Situational awareness refers to the capability to maintain a constant vigil over important information, understand the relationship among the various pieces of information monitored, and project this understanding into the near future to make critical decisions. The term “situational awareness” is a form of mental bookkeeping.
Crewmembers aboard towing vessels, whether working on the navigation watch, on deck, in engineering, or in the galley, must constantly maintain situational awareness to ensure safe operations. Situational awareness is essential to make informed decisions, act in a timely manner, and ultimately ensure operational safety, whether at sea or transiting through inland waterways, harbors, or coastal environments. Maintaining 24-hour vessel operations while successfully meeting navigational challenges such as inclement weather, vessel traffic, bridges, locks, and recreational vessels, requires all of the cognitive processes supporting situational awareness to be functioning in good working order.

Maintaining and updating situational awareness and making timely and accurate decisions in operational environments, such as the wheelhouse of a towing vessel, engineering, and on deck, necessitates a wide range of cognitive skills. In particular, a mariner must be able to:

- Appreciate a difficult and rapidly changing situation;
- Assess risk;
- Anticipate the range of consequences;
- Keep track of events;
- Update the big picture;
- Be innovative;
- Develop, maintain and revise plans;
- Remember when events occurred;
- Control mood and behavior;
- Show insights into one’s own performance;
- Communicate effectively; and
- Avoid irrelevant distractions.

In addition to these skills, situational awareness and decision making also require cognitive abilities for rule-based skills of logical, critical, and deductive reasoning. A substantial body of research demonstrates that loss of sleep significantly degrades the cognitive skills (i.e., those 12 bulleted items listed above) necessary to establish and maintain situational awareness. [See Yvonne Harrison & James A. Horne, “The Impact of Sleep Deprivation on Decision Making: A Review,” Journal of Experimental Psychology: Applied, 236-249, Vol. 6 No. 3 (2000).]


**Effects of Sleep Loss on Situational Awareness: Distractions, Assimilation, and Judgment**

Appreciation of a complex situation while avoiding distraction requires assimilation of large amounts of information in a short period of time. Loss of sleep increases visual and auditory distractions that decrease focused attention and, therefore, interferes with the assimilation of rapidly changing information. Daily loss of sleep results in less discrimination handling ambiguous material, less confidence, more openness to leading information, and more willingness to modify recollections of events. These effects also interfere with the correct assimilation of changing information. Even a single night of sleep loss can result in less appreciation of a complex situation. When subjected to sleep loss, study participants consistently applied more effort to pointless areas of their decision-making, which had little or no effective outcome in the task at hand. [See Yvonne Harrison & James A. Horne, “The Impact of Sleep Deprivation on Decision Making: A Review.” Journal of Experimental Psychology: Applied, 236-249, Vol. 6 No. 3 (2000).]

**Effects of Sleep Loss on the Ability to Track Events and to Develop and Update Strategies**

One night of sleep loss leads to deterioration of planning skills, marked perseveration, and failure to revise original strategies in light of new information. Additionally, people who experience partial sleep loss are more likely to “stay the course” as opposed to changing strategies, even when it is apparent that the strategies are no longer appropriate. [See Id.]

Studies of accidents in maritime operations support the notion that loss of situational awareness plays a significant role in incidents attributed to human error. In a report published in 2005, discussed above in section III.D of this preamble, TSAC reported that human factors accounted for 54 percent of the medium and high severity
incidents and about 40 percent of the low severity incidents. Failures in situational awareness or task performance accounted for 69 percent of the medium and high severity incidents involving human factors.

In a separate report in 2003, the Coast Guard – American Waterways Operators (AWO) Bridge Allision Working Group examined 459 bridge allisions (an allision is contact between a moving towing vessel and a stationary object such as bridge, dock, or moored vessel) and reported 78 percent were associated with pilot error and 12 percent with other operational errors. These reports may be found in the docket for this rulemaking, where listed above in section I.B. “reviewing comments and documents.”

Of even greater importance to the association of human error with loss of situational awareness was the finding that 68 percent of 435 cases showed critical decision-making errors on the part of the towing vessel operator. These findings support the NTSB findings and recommendations that, in dynamically evolving operational scenarios, a loss of situational awareness leads to inadequate decision-making and performance errors.

On towing vessels, a typical work schedule alternates between 6 hours of work and 6 hours of rest, otherwise known as “6 on/6 off.” This schedule consistently restricts daily uninterrupted sleep below 6 hours (total uninterrupted sleep obtained in a 6 on/6 off watch schedule cannot exceed 6 hours) and does not deliberately ensure nighttime physiological adjustment (body clock adjusted for nighttime work and daytime sleep) when crewmembers work at night. As a result, when reviewing accidents involving human error, it is not possible to determine whether the degradation in situation awareness was from increasing sleep debt or from working against the physiological need to sleep.  [See Yvonne Harrison and James A. Horne, “The Impact of Sleep Deprivation on Decision Making: A Review.” Journal of Experimental Psychology: Applied, 236-249, Vol. 6 No. 3 (2000); Paula Alhola and Paivi Polo-Kantola, “Sleep Deprivation: Impact on Cognitive Performance.” Neuropsychiatric Diseases and Treatment, 553-567, Vol. 5 (2007).]

Work Hours in the Towing Industry


In most segments of the towing industry, towing companies must sustain 24-hour operations to provide customers with adequate transportation services and to compete with other carriers. Currently, a number of requirements governing hours of service for the shipping industry can be found in Title 46 of the U.S. Code. The law states that a towing vessel on a trip or voyage of less than 600 miles may divide its licensed officers and certain crewmembers, while at sea, into at least 2 watches (46 U.S. Code §8104(g)). The law further requires that licensed individuals on towing vessels that are at least 26 feet in length may not work more than 12 hours in a consecutive 24-hour period, except in an emergency (46 U.S. Code §8104(h)). Additionally, licensed individuals or crewmembers in the deck or engine departments, operating on the Great Lakes, may not work more than 8 hours in one day or more than 15 hours in any 24-hour period, or 36 hours in any 72-hour period (46 U.S. Code §8104I).

As previously stated, the typical work schedule for towing vessels alternates between 6 hours of work and 6 hours of rest. This work/rest schedule is repeated every day, when possible, without changing reporting times. While the 6 on/6 off schedule provides consistent periods of work and rest from day to day, under the conditions of a 6 on/6 off schedule, sleep is restricted and sleep debt accumulates day after day, which gradually increases fatigue levels. Ultimately, under the 6 on/6 off schedule, fatigue is inevitable.  [See Mikko Harma, Markku Partinen, Risto Repo, Matti Sorsa, and Pertti Siivonen, “Effects of 6/6 and 4/8 Watch Systems on Sleepiness Among Bridge Officers.” Chronobiology International, 25(2&3): 413-423, (2008)].

Physiological adaptation to nighttime work schedules is required to prevent crewmember fatigue. During nighttime watch periods, crewmembers experience the disparity between the need to sleep during the night and the requirement to work when they would normally be sleeping. [See Margareta Lutzholf, Anna Dahlgren, Albert Kircher, Birgitta Thorslund, and Mats Gillberg, “Fatigue at Sea in Swedish Shipping – A Field Study.” American Journal of Industrial Medicine 53:733-740 (2010).] Adapting to nighttime work and daytime sleep requires specific natural and artificial light exposure regimens prior, during, and after the night watch to re-adjust physiological timing.

A recent study conducted at the Karolinska Institute in Sweden demonstrated that maritime officers working the 6 on/6 off schedule, without the opportunity to adjust their internal physiology to nighttime work and daytime sleep, consistently obtained less than 4.5 hours of sleep during a 6-hour period off, even when sleeping during the night.  [See Claire A. Eriksen, Mats Gillberg & Peter Vestergren, “Sleepiness and Sleep in a Simulated
Officers sleeping during the night were not able to sleep longer than 5 hours per night, while officers sleeping during daytime hours slept less than 4 hours per sleep period. These data demonstrate that even when officers slept in comfortable bedrooms on shore, as was the case in this study, lack of physiological adaptation to the night work schedule resulted in further restrictions of sleep duration during daytime hours. Participants in this study share with crewmembers aboard domestic towing vessels both the 6 on/6 off watch schedule and the lack of opportunity to physiologically adapt to working nights and sleeping during the day.

Crew Endurance Management System (CEMS)

The Coast Guard provides training and information on fatigue management through the Crew Endurance Management Systems (CEMS) program. While this training and information has been available to the industry-at-large, companies report difficulty in providing appropriate artificial lighting for crewmember nighttime adaptation. Under the 6 on/6 off watch schedule, crewmembers work at night, against the natural physiological need to sleep, and under the influence of increasing sleep debt. Under these operational conditions, reduced situational awareness is inevitable. [See Yvonne Harrison and James A. Horne, "The Impact of Sleep Deprivation on Decision Making: A Review." Journal of Experimental Psychology: Applied, 236-249, Vol.6 No.3 (2000); Paula Alhola and Paivi Polo-Kantola, “Sleep Deprivation: Impact on Cognitive Performance.” Neuropsychiatric Diseases and Treatment, 553-567, Vol. 5 (2007)].

The nexus between daily sleep restriction, relevant to the 6 on/6 off watch schedule, and cognitive impairment vital to the maintenance of situational awareness is demonstrated in a study conducted in 2002 at the Walter Reed Army Institute of Research. Researchers examined performance degradation and restoration in 66 research volunteers who were allowed 3, 5, 7, and 9 hours of continuous time in bed, each night for 7 consecutive days. Results of the study can be found in an article titled “Patterns of Performance Degradation and Restoration During Sleep Restriction and Subsequent Recovery: A Sleep Dose-Response Study.” This article may be found in the docket for this rulemaking, where listed above in section I.B. “Viewing comments and documents.”

As noted in the article, baseline performance was measured after participants were allowed 8 continuous hours of time in bed. Participants who had 9 consecutive hours of time in bed each night showed no impairment in performance. By contrast, participants who had 5 or 7 hours of time in bed showed slower reaction speeds. Participants in the 5-hour time in bed condition exhibited greater alertness deficit than in the 7-, 8-, and 9-hour time in bed conditions.

This study also highlighted the importance of recovery sleep on performance. After the 7 days of sleep restriction, participants were allowed 8 consecutive hours of time in bed for 3 days. During this 3-day recovery period, participants underwent neurobehavioral tests while awake. The 9-hour time in bed group showed no significant differences from the baseline. By contrast, the 3-hour time in bed group rapidly recovered when allowed 8 hours of time in bed on the first night, though their performance did not recover to baseline levels (8-hour time in bed). In fact, during the 3 days of sleep recovery, this group’s performance levels never rose higher than those of participants whose sleep was restricted to 5 or 7 hours.

Disturbingly, while participants who had less than 8 continuous hours of time in bed did not report feeling sleepy, this group’s performance and alertness levels decreased significantly, especially in the 5-hour and 3-hour time in bed groups. These data illustrate that people experiencing partial sleep deprivation do not easily recognize their own performance impairment.

A more recent study observed 48 healthy adults whose sleep was restricted to 4, 6, and 8 hours of time in bed per night for 14 days. The results are published in an article titled “The Cumulative Cost of Additional Wakefulness: Dose-Response Effects on Neurobehavioral Functions and Sleep Physiology From Chronic Sleep Restriction and Total Sleep Deprivation.” In this study, participants underwent neurobehavioral tests, while awake, every 2 hours to determine the effects of sleep restriction on their daytime performance. These tests included measures of attention/reaction time, working memory, mental agility, and subjective sleepiness. Taken together, the tests measured participants’ cognitive abilities while they performed tasks requiring vigilance and mental tracking of critical information. Results showed that performance deteriorated significantly, as sleep loss accumulated over the 14 days.

Remarkably, the performance levels of participants who received less than 6 hours of time in bed per day, for 14 days, degraded as much as those of participants who had no time in bed for 2 days. Paradoxically, none of the sleep-restricted participants reported feeling sleepy.
The results of both studies highlighted here are important to towing operations, and as such were taken into consideration when we considered hours-of-service performance standards. While they cannot be said to prove without a doubt that when given less than 8 hours time in bed per night, a crewmember’s alertness and cognitive abilities, and thus overall situational awareness, will decline, they do suggest that this is the case. **Compounding the problem is the fact that sleepiness is unlikely to be reported, even when cognitive abilities are impaired.**

In addition to reviewing the studies cited above, we used the Fatigue Avoidance Scheduling Tool (FAST) to determine the effects of sleeping less than 7-8 hours per day, even when considering two separate sleep periods. The FAST is the result of coordinated Department of Transportation (DOT) and Department of Defense (DOD) research efforts to develop and validate a comprehensive model to assess the effects of work and rest schedules on human health and performance. The Coast Guard also uses the FAST to assess, identify, and mitigate operational risks inherent in its own afloat, aviation, and ashore missions. Other agencies such as the Federal Railroad Administration (FRA) use the FAST for similar purposes. A full assessment, when applying the FAST, may be found in the docket for this rulemaking, where listed above in section I.B. “Viewing comments and documents.”

Figures 2 through 10 in the assessment, which can be found in the docket for this rulemaking, show results from modeling changes in human alertness and cognitive performance effectiveness as a result of working a variety of schedules. Figure 2 shows the impact of restricted sleep on performance and alertness of a crewmember working nights from 12 midnight-6 a.m. and during the day from 12 noon-6 p.m., simulating a two-watch system. In this case, the crewmember sleeps a total of 6 hours per day in two separate sleep periods, one occurring from 8 a.m.-10 a.m. and the other from 7 p.m.-11 p.m. All sleep considered in this example is of the highest quality, without any interruptions of any kind. This example simulates the crewmember sleeping 4 consecutive hours just prior to reporting for the night watch and 2 consecutive hours after the end of the watch. The FAST calculations reveal a pattern of degraded performance throughout the 30-day simulation. Under these circumstances, the daily alertness and performance function shows a degrading trend with alertness and performance levels comparable to someone with Blood Alcohol Concentration (BAC) levels of 0.05 percent, 0.08 percent, and 0.1 percent throughout the watch period.

Figure 3 shows the effect of interrupted sleep under the same schedule as the one used for the calculations depicted on figure 2. In this case, the FAST simulation includes two short interruptions of sleep per hour. This scenario simulates occasional sleep disruptions due to environmental noise, and results in brief wakefulness periods during every hour of sleep. In this instance, minor disruptions of the sleep period cause a rapid decrease in the performance efficiency curve. This decrease reaches levels comparable to performance below the 0.1 percent BAC level after only 3 consecutive days. Performance does not recover above the 0.1 percent BAC level throughout the 30-day assessment.

Figure 4 models the performance and alertness functions of a crewmember working 6 hours during the night (midnight-6 a.m.) and 6 hours during the day (noon-6 p.m.), but sleeping a total of 8 hours per day, 4 hours between 7 a.m.-11 a.m. and 4 hours between 7 p.m.-11 p.m. All sleep in this example is of the highest quality, without any interruptions. Examining the performance effectiveness function on Figure 4 reveals a daily degradation in alertness and performance that is comparable to 0.05 percent and 0.08 percent BAC levels throughout the night watch period. However, unlike the example shown on Figure 2, performance effectiveness begins a recovery trend on the seventh day. Recovery is not complete, as performance effectiveness does not climb above the 0.05 percent BAC performance level. This provides evidence that increasing daily sleep from 6 to 8 hours did improve performance efficiency, but it was not sufficient to prevent degradation of performance throughout the 30-day assessment.

Figure 5 shows the impact of minor interruptions of sleep per hour (two awakenings less than 1 minute long). The FAST algorithm reveals that, although this model iteration affords 8 total hours of sleep (adding both sleep periods), minor sleep disruptions result in significant degradation of performance. Performance effectiveness degrades below the 0.1 percent BAC level after the third day and remains below the 0.05 percent BAC level for the rest of the 30-day period of assessment. Both models explored in Figures 4 and 5 provide evidence that performance efficiency depends on the interaction between daily sleep duration and quality of sleep. Figures 6, 7, 8, 9, and 10 provide results from modeling longer work and sleep periods in a two-watch system. The results shown in these models indicate that it is possible to prevent performance degradation in the two-watch system, but it requires the extension of the rest periods. The placement of the longest sleep period relative to the night watch is also important. Sleeping 6 hours soon after the night watch and 4 hours during the afternoon maintains performance efficiency within safe levels. Day watch models also showed high performance efficiency when consecutive sleep durations reached 6.5 hours.

Considering together the results from the FAST modeling, the scientific evidence showing that restricted sleep degrades performance via a degradation of cognitive abilities supporting situational awareness, and evidence of
service or crew endurance management regulatory text considering this additional information, the Coast Guard would later request public comment on specific hours of service and crew endurance management standards and requirements. As noted, after considering this additional information, the Coast Guard would later request public comment on specific hours of service or crew endurance management regulatory text if it seeks to implement such requirements.

Crew Endurance Management Programs

As discussed above, the CGMTA 2004 granted the Coast Guard authority to update the maximum hours of service standards currently regulating the towing industry. The CGMTA 2004 states that “the Secretary may prescribe by regulation, requirements for maximum hours of service (including recording and recordkeeping of that service) of individuals engaged on a towing vessel that is at least 26 feet in length measured from end to end over the deck (excluding the sheer).” 46 U.S. Code §8904I. This Act authorized the Coast Guard to draft regulations to ensure that shipboard work practices do not compromise the safety of navigation and/or crewmembers due to unmitigated fatigue incidence. (H.R. Conf. Rep. 108-617, 2004 U.S.C.C.A.N. 936, 951, 953.)

However, Congress directed the Coast Guard to carry out a demonstration project with the purpose of assessing the effectiveness and feasibility of the previously established Crew Endurance Management System (CEMS) on towing vessels, and report the results to Congress (Pub. L. 108-293, Sec. 409(b), 118 Stat. 1044).

The Coast Guard developed CEMS in 1999 as a voluntary program to assist the commercial maritime industry in managing shipboard fatigue by coordinating improvements to shipboard diet, sleep, work environments, and watch schedules. CEMS established practices to protect crewmember health and performance. In developing CEMS, the Coast Guard recognized that a crewmember’s physical endurance depends on efficient physiological energy production and management of risk factors such as poor diet, lack of exercise, and personal stress. Onboard access to exercise equipment, communications with family, and low-fat meals that consist of lean protein, complex carbohydrates, and fresh water are necessary to support a crewmember’s physical endurance. However, while these activities are extremely important, the central objective of CEMS was and is to ensure that crewmembers have sufficient time off to obtain a daily minimum of 7-8 hours of uninterrupted, high-quality sleep. The Coast Guard has information suggesting that this daily sufficient sleep is crucial to maintain alertness and the cognitive abilities necessary to establish and maintain situational awareness and adequate physical capacity in the work environment.

Responding to the Congressional mandate, the Coast Guard conducted the CEMS demonstration project aboard towing vessels in 2005. The results of this project showed CEMS implementation was feasible, effective, and sustainable, but not all companies that participated adopted a watch scheduled that permitted a minimum of 7-8 hours of uninterrupted sleep. The report submitted to Congress, titled “Report on Demonstration Project: Implementing the Crew Endurance Management System (CEMS) on Towing Vessels” is available in the docket for this rulemaking, where listed above in section I.B. “Viewing comments and documents.” The Coast Guard welcomes public comments on this report, and all of the information and questions presented above in relation to potential hours of service and crew endurance management standards and requirements. As noted, after considering this additional information, the Coast Guard would later request public comment on specific hours of service or crew endurance management regulatory text if it seeks to implement such requirements.
Progress in Science-based Hours of Service Regulations by DOT Administrations

While the Coast Guard’s Marine Safety Directorate continued to allow its focus to drift away from delivering the “hours of service” regulations following Admiral Josiah’s response to the NTSB in 1999, other DOT agencies continued their work. For example, on Dec. 27, 2011, the Federal Motor Carrier Safety Administration (FMCSA) published a Final Rule on hours of service for truck drivers.\(^1\) \(76 \text{ FR } 81134-81188\)

The FMCSA participated in, collected, and reported impressive scientific documentation\(^1\) on the hours-of-service issue to support their regulatory package against the same type of resistance by entrenched industry trade associations like the American Trucking Association (ATA) that the Coast Guard clearly did not want to offend and preferred to avoid – namely the American Waterways Operators (AWO) and the Offshore Marine Service Association (OMSA). \(76 \text{ FR } 81147 – 81154.\)

The Federal Aviation Administration (FAA), another DOT modal agency moved much more aggressively than the Coast Guard in dealing with the Feb. 12, 2009 crash of Colgan Air flight 3407 near Buffalo, NY, with 50 fatalities that involved serious fatigue issues. In comparison, the Coast Guard efforts in addressing Marine Safety fatigue issues were anemic, unfocused, disorganized, and years behind the other Federal agencies.

Was this a result of the Coast Guard’s inattention to marine safety issues as pointed out in Admiral James Card’s report issued in 2007 and made public the following year?\(^1\) Was it related to the failure in Coast Guard Marine Safety Investigations over a period of many years as determined by the Department of Homeland Security Inspector General in 2008?\(^2\) Or, did it result from the Coast Guard’s move from DOT to DHS in 2003?\(^3\) Or is the Coast Guard with its military orientation is incapable of resolving civilian “labor issues” like hours of service in a fair and unbiased manner? Or, are senior officers in the Marine Safety Directorate so preoccupied with feathering their own nests as they prepare to retire? These are all issues for Congress to determine. \(^{14}\) Refer to NMA Report #R-401-E. \(^2\) Refer to NMA Report #R-429-M. \(^3\) As reported in DHS OIG-09-13, p. 14.]
What is the NTSB?

The National Transportation Safety Board is an independent executive branch federal agency that investigates accidents involving transportation of persons or goods. For our purposes, the agency investigates major marine accidents on waters of the United States, accidents involving U.S. merchant vessels in international waters, and accidents involving U.S. public and non-public vessels including recreational vessels. It investigates selected marine accidents that involve public transportation or those of a recurring nature. Since the Coast Guard is the primary investigator of maritime casualties, a revised memorandum of understanding between the two agencies exists to refine the role of each agency in maritime accident investigations. Relatively speaking, however, the Coast Guard has far more of its personnel assigned to maritime “investigations” than does the NTSB whose personnel are spread out over a wide range of modal administrations.

After investigating a transportation-related accident, whether on the highway, on a railroad, on the water, or involving a pipeline or other mode of transportation, the NTSB makes safety recommendations to those parties involved in the accident. Recipients of those “recommendations” include other agencies of federal, state, local or tribal governments, companies, corporate entities, trade associations, other businesses, or individuals. The NTSB, unlike the Coast Guard, has no enforcement power.

[NMA Comment: The NTSB can “recommend” suitable hours-of-service limits for valid safety reasons. However, only Congress has the authority to legislate those limits and exercise “oversight” to ensure that the Coast Guard enforces those limits. Yet, powerful forces can act to deflect the best of intentions.]

The NTSB Doesn't Consider Economics – Just Safety

[Source: By Capt. Allen Bernstein, WorkBoat, Mar. 21, 2011.]

At the Passenger Vessel Association annual convention in St. Louis in February, I learned a thing or two about the National Transportation Safety Board (NTSB).

In her address to convention attendees, NTSB Chairman Deborah Hersman delivered a compelling speech about safety across all transportation modes, not just maritime.

Hersman made it crystal clear that the NTSB’s mission is focused on safety and nothing but safety. When the NTSB makes safety recommendations, it does so without considering its possible cost. The “balancing” of safety recommendations and economics is outside of the NTSB’s mission. Agencies such as the Coast Guard or the private sector perform any necessary cost-benefit analyses and then decide whether to implement NTSB safety recommendations. If the answer is yes, they must then determine how best to implement the NTSB’s suggestions – or at least not right away. The NTSB, she said, sometimes proposes safety equipment or measures that, at present, are not technologically or commercially available at an affordable cost. In these cases, the NTSB’s goal is that the recommendations will provide the impetus for future technological or commercial developments.

Hersman acknowledged that passenger vessel operators must take many things into account other than safety. After all, she said, “The safest passenger vessel is the one that never sails from the dock.”

Unlike the Coast Guard, the NTSB does not have a mandate to take factors other than safety into consideration. That’s why the Coast Guard goes through a lengthy public process when it proposes a new safety rule. It seeks comments not only on the substance of its proposed regulation(s), but also on its economic impact. By analyzing the potential economic impact of a proposed rulemaking, it doesn’t mean that the Coast Guard is downplaying safety. They are simply doing what the law calls for, and what the private sector expects.

Unfortunately, many don’t realize that the NTSB does not “vet” its recommendations for their economic impact. For example, a plaintiff’s attorney who should certainly know better may accuse a passenger vessel operator of being “against” safety for failing to implement an NTSB recommendation.

Implementing NTSB “Recommendations”

The Marine Safety Directorate had a long-standing opportunity to implement a number of safety “recommendations” from the NTSB and from other sources. We noted in the past that the Coast Guard failed to take action on an alarming number of NTSB “recommendations” and our Directors urged them to act upon them. [Refer to NTSB/MAR-95/03 Appendix F listing 55 major unresolved safety recommendations. NMA file M-076.]
From time to time our Association develops safety recommendations, such as the need to inspect towing vessels\(^{(1)}\) and to effectively monitoring hours-of-service recorded in logbooks.\(^{(2)}\) Recommendations such as these are now required by statute. \[^{(1)}46\text{ U.S. Code §3301(15)}\] \[^{(2)}46\text{ U.S. Code §11304}.\]

When the Marine Safety Directorate or a federal advisory committee like TSAC chooses to ignore safety recommendations we believe have merit, our Association may pass them along to Congress for consideration. While we respect the NTSB for its safety recommendations on science-based hours of service recommendations, we are seldom impressed with the Marine Safety Directorate’s reluctant responses in contrast to DOT modal administrations like the FMCSA or the FAA. The towing vessel inspection rulemaking proposal in August 2011 painfully illustrates how far the Coast Guard has fallen behind other transportation modes by its delayed response in curbing hours of service abuses in their neglect of problems facing our limited-tonnage mariners.

### NTSB Goal to Reduce Casualties Caused by Human Fatigue

The NTSB’s **objective** is to establish reasonable working hour limits for mariners based on scientific fatigue research, circadian rhythms, and sleep and rest requirements.

The Safety Board has long been concerned about the issue of operator fatigue in transportation and stressed its concerns in investigation reports issued throughout the 1970s and 1980s. In 1989, the NTSB issued three recommendations to the Secretary of Transportation calling for research, education, and revisions to existing regulations. These recommendations were added to the Board’s Most Wanted List in 1990, and the issue of fatigue has remained on the Most Wanted List since then. The Safety Board’s 1999 safety study of DOT efforts to address operator fatigue continued to show that this problem was widespread. Operating a vehicle without the operator’s having adequate rest, in any mode of transportation, presents an unnecessary risk to the traveling public.

Safety Board recommendations on the issue of human fatigue and hours-of-work policies have had a substantial effect on encouraging the modal agencies including the Coast Guard to **conduct research** and **educate mariners** on understanding the complex problem of operator fatigue in transportation and how they can affect operator performance. The previous chapter on fatigue and sleep issues shows the extent of the Coast Guard’s research. However, by indefinitely postponing possible action until some undetermined date in the future shows that the Coast Guard is unwilling to step up and confront employers and their trade associations (i.e., AWO and OMSA) in the same manner as the FMCSA confronted the trucking industry trade association (ATA). It is important to note that since 2010, the Department of Homeland Security Inspector General’s Office no longer contains personnel with an active merchant marine background and knowledge of the hours of service abuses that exist in the merchant marine service. We assert that this is a major administrative shortcoming that deserves close attention by Congress!

The Coast Guard played a major role in addressing fatigue at the International Maritime Organization (IMO) Convention, especially in the 1995 amendments to the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW), and in an IMO resolution calling attention to the variety of factors that contribute to fatigue. The new STCW rules became mandatory for all mariners operating beyond the boundary line in 2002 with major revisions in 2012. Unfortunately, a “disconnect” between STCW **hours-of-rest** and **hours-of-service** in United States statutes and regulations often is used to disadvantage our working mariners. This could be resolved by limiting hours-of-service for all mariners to 12 hours of “**work**” as defined in existing Coast Guard policy to 12 hours in any 24-hour period and requiring a minimum of 7 to 8 hours of uninterrupted rest during that period to satisfy human needs.

**Domestically,** in the Coast Guard and Maritime Transportation Act of 2004,\(^{(1)}\) Congress authorized the Secretary of DHS to establish regulations to set maximum hours of service for towing vessel officers based on the results of the demonstration project that implemented Crew Endurance Management System (CEMS)\(^{(2)}\) on towing vessels. The research branch demonstration project was completed in 2005, and a report of the results was submitted to Congress in March 2006. \[^{(1)}\text{DHS, U.S. Coast Guard. (Dec. 2005). Report on Demonstration Project: Implementing the Crew Endurance Management System (CEMS) on Towing Vessels.}\] \[^{(2)}\text{CEMS is defined as “a system for managing the risk factors that can lead to human error and performance degradation in maritime environments.” Fatigue management is one of several factors that CEMS considers.”}\]

According to the CEMS report, the demonstration project was designed to evaluate the feasibility, effectiveness, and sustainability of CEMS in the towing industry. Although the report cautioned that the sample size of vessels that participated in the project was relatively small, and therefore might not generalize to a wider population, it asserted that, **“when properly practiced,”** CEMS is effective in reducing fatigue-related risks.**“When properly practiced,”** Coast Guard staff indicated at a July 19, 2007, briefing that an increasing number of crews from vessels in the towing industry have

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\[^{(1)}46\text{ U.S. Code §3301(15)}\]

\[^{(2)}46\text{ U.S. Code §11304}.\]
received training on CEMS and that the Coast Guard is commencing efforts to promote CEMS in other industry segments. They also indicated that although the Coast Guard would likely consider regulatory changes to hours of service in the future, it established no specific timeline for doing so. Although the Coast Guard made extensive efforts in developing and providing guidance in CEMS for use by its own personnel (1) and in working with the towing industry, **CEMS remains a voluntary program for merchant mariners.** Consequently, all aspects of the program may not be properly or fully implemented. For example, approximately half of the vessels involved in the demonstration project never changed their existing “6-on, 6-off” watch schedule. By continuing to maintain a “6&6” watch schedule, research shows that it is not possible for crews to obtain enough uninterrupted sleep to maintain alertness levels during working periods. [1] COMDTINST 3500.2, 30 Mar. 2006 is the military version of CEMS. It is mandatory for all Coast Guard personnel.]

The Coast Guard played an important role in the IMO’s 1995 amendments to the upgrade the Standards of Training, Certification and Watchkeeping (STCW) although without any input from the limited tonnage mariners who are the majority of U.S. merchant mariners. The Coast Guard took action to address fatigue-related risk factors through its CEMS program to its own personnel in 2006. It also introduced CEMS to towing vessel operators the same year. However, to date, the Coast Guard not initiated any rulemaking to govern domestic merchant marine operations under the ‘two watch” system and, in fact, has avoided doing so.

**NTSB “Most Wanted Transportation Safety Improvements”**

Ten years after issuing its first call for nationwide hours-of-service regulations, the NTSB reiterated its call for the Coast Guard to issue hours-of-service regulations for all domestic operators, including operators of towing vessel operators. That call was endorsed by Congress in the Coast Guard and Maritime Transportation Act of 2004. The NTSB issued Safety Recommendation #M-99-1 to the Coast Guard on June 1, 1999 and added it to their “Most Wanted List” in that year. In 1999, the NTSB called for the Coast Guard to “Establish within 2 years scientifically based hours-of-service regulations that set limits on hours of service, provide predictable work and rest schedules, and consider circadian rhythms and human sleep and rest requirements.” That was 13 years ago!
National Transportation Safety Board  
Washington, D.C. 20594  

Safety Recommendation

Date: June 1, 1999

In reply refer to: I-99-1

Honorable Rodney Slater  
Secretary  
U.S. Department of Transportation  
Washington, D.C. 20590

During the 1980s, the National Transportation Safety Board investigated several accidents that involved operator fatigue. Following completion of these accident investigations, the Safety Board in 1989 issued three recommendations to the U.S. Department of Transportation (DOT):

Expedite a coordinated research program on the effects of fatigue, sleepiness, sleep disorders, and circadian factors on transportation system safety. (I-89-1)

Develop and disseminate educational material for transportation industry personnel and management regarding shift work; work and rest schedules; and proper regimens of health, diet, and rest. (I-89-2)

Review and upgrade regulations governing hours of service for all transportation modes to assure that they are consistent and that they incorporate the results of the latest research on fatigue and sleep issues. (I-89-3)

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Fatigue has remained a significant factor in transportation accidents since the Safety Board's 1989 recommendations were issued. Although generally accepted as a factor in transportation accidents, the exact number of accidents due to fatigue is difficult to determine and likely to be underestimated. The difficulty in determining the incidence of fatigue-related accidents is due, at least in part, to the difficulty in identifying fatigue as a causal or contributing factor in accidents. There is no comparable chemical test for identifying the presence of fatigue as there is for identifying the presence of drugs or alcohol; hence, it is often difficult to conclude unequivocally that fatigue was a causal or contributing factor in an accident. In most instances, one or more indirect or circumstantial pieces of evidence are used to make the case that fatigue was a factor in the accidents. This evidence includes witness statements, hours worked and slept in the previous few days, the time at which the accident occurred, the regularity or irregularity of the operator's schedule, or the operator's admission that he fell asleep or was impaired by fatigue. Despite the difficulty in identifying fatigue as a causal factor, estimates of the number of accidents involving fatigue have been made for the different modes of transportation; the estimates vary from very little involvement to as high as about one-third of all accidents.

Although the data are not available to statistically determine the incidence of fatigue, the transportation industry has recognized that fatigue is a major factor in accidents. Further, the Safety Board's in-depth investigations have clearly demonstrated that fatigue is a major factor in transportation accidents.

In the 10 years that have passed since the three intermodal safety recommendations were issued, the Safety Board has issued an additional 70 fatigue-related safety recommendations, which were the result of major accident investigations, special investigations, or safety studies that identified operator fatigue as a factor. This includes 11 accident reports or studies in aviation regarding air tours and operations conducted under Parts 91, 121, and 135; 7 in highway regarding busdrivers and truckdrivers; 3 in marine regarding passenger vessels and tankships; 4 in railroad regarding freight trains, passenger trains, and rail transit operations; and 1 in pipeline regarding pipeline controllers.

Operator fatigue has been on the Safety Board's list of Most Wanted Transportation Safety Improvements since the list's inception in 1990. Had the DOT acted more aggressively on the three intermodal recommendations issued in 1989, the need for the 70 additional recommendations to the States and industry may have been minimized.

In November 1995, the Safety Board and the National Aeronautics and Space Administration (NASA) cosponsored a symposium to discuss fatigue countermeasures and to

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2 The Safety Board recognizes that people have a limited ability to predict the onset of sleep and to determine their level of sleepiness. (Ito, A.; Clivelli, R.; Voith, M.; and others. 1995. Can Drivers Avoid Falling Asleep at the Wheel? Relationship Between Awareness of Sleepiness and Ability to Predict Sleep Onset. Washington, DC. AAA Foundation for Traffic Safety: p. 23.)

3 Thirty-four of these recommendations were issued to the DOT or modal administrations. The remainder of the recommendations were issued to the States, industry, or industry associations.

4 In October 1990, the Safety Board adopted a program to identify the "Most Wanted" transportation safety improvements. The purpose of the Board's Most Wanted list, which is drawn up from safety recommendations previously issued, is to bring special emphasis to the transportation safety issues the Board deems most critical.
demonstrate how they can be applied to prevent accidents in all modes of transportation.\textsuperscript{5} The symposium was designed to practically illustrate the intent of one of the Safety Board's 1989 intermodal recommendations (I-89-2): to develop and disseminate educational material. More than 500 people from 16 countries representing all the modes of transportation attended the symposium, which attests to the magnitude and interest in the fatigue problem. As part of the symposium, the participants were divided into modal-specific groups to discuss scheduling, countermeasures, and education. All of the groups indicated that education was needed for the operators as well as for the management of transport companies. While the groups believed there was a need for additional technological countermeasures, they also believed there were some steps that could already be taken or could easily be implemented. For example, both an aviation group and the railroad group discussed the need for quality sleeping areas while away from home, pointing out that many hotels do not have rooms that are adequate for daytime sleeping. There was broad support voiced regarding a need for changes to the hours-of-service regulations. The participants wanted these regulations to be updated and based on scientific research.

The Safety Board recently completed a safety report that provides an update on the activities and efforts by the DOT and the modal administrations to address operator fatigue and, consequently, the progress that has been made in the past 10 years to implement the actions called for in the three intermodal recommendations and other fatigue-related recommendations.\textsuperscript{6}

The various Secretaries of the DOT and modal Administrators over the years have expressed their concerns about operator fatigue. In a 1995 summary of the DOT's fatigue safety effort, Federico Peña, then Secretary of the DOT, stated that "fatigue among transportation operators remains a critical safety problem."\textsuperscript{7} In a 1999 update, Secretary Rodney Slater stated, "We know that alertness is a key to safe vehicle operation. To reduce crashes and accidents and their personal and financial consequences, we need to ensure that vehicle operators are ready and capable of operating their vehicles or other transportation equipment."\textsuperscript{8} Despite the many statements made by the DOT about the importance of addressing fatigue in transportation, only one of the three intermodal recommendations issued to the DOT more than 10 years ago has been fully implemented (I-89-1).

Safety Recommendation I-89-1

Safety Recommendation I-89-1 asked the DOT to expedite a coordinated research program on the effects of fatigue, sleepiness, sleep disorders, and circadian factors on transportation system safety. In its August 1989 response, the DOT stated that coordinated


\textsuperscript{6} National Transportation Safety Board. 1999. \textit{Evaluation of U.S. Department of Transportation Efforts in the 1990s To Address Operator Fatigue}. Safety Report NTSB/AR-99/01. Washington, DC.

\textsuperscript{7} U.S. Department of Transportation. November 1995. \textit{Sharing the Knowledge: Department of Transportation Focus on Fatigue}. Washington, DC.

research efforts on human factors—including the effects of fatigue, sleepiness, sleep disorders, and circadian factors—on transportation safety was a top priority. The Human Factors Coordinating Committee, formed in 1988 and comprising representatives from each of the DOT administrations, serves as a means to share research information. A subcommittee has been created to focus on fatigue-related issues. In addition, the DOT briefed the Safety Board about the various ongoing fatigue-related projects several times over the years. Safety Recommendation I-89-1 was classified “Closed—Acceptable Action” on July 19, 1996, because the DOT had generally made Department-wide research efforts on operator fatigue. At the time this recommendation was closed, the Federal Aviation Administration (FAA), the Federal Highway Administration (FHWA), the National Highway Traffic Safety Administration (NHTSA), the Federal Railroad Administration (FRA), and the United States Coast Guard (USCG) all had fatigue-related research projects underway.

The Safety Board is disappointed, however, that more research efforts have not been made by the Research and Special Programs Administration (RSPA) in the pipeline mode. In 1998, the Board asked RSPA to assess the potential safety risks associated with rotating pipeline controller shifts and to establish industry guidelines for the development and implementation of pipeline controller work schedules that reduce the likelihood of accidents attributable to controller fatigue (Safety Recommendation P-98-30). The RSPA responded to the recommendation on May 4, 1999.

The DOT’s efforts to coordinate operator fatigue research have generally been responsive, with the exception of the RSPA regarding pipeline operations. The Safety Board encourages the DOT to continue its research, particularly on technology and in the pipeline mode, and to share information across the modes and with industry.

Safety Recommendation I-89-2

Safety Recommendation I-89-2 asked the DOT to develop and disseminate educational material for transportation industry personnel and management regarding shift work; work and rest schedules; and proper regimens of health, diet, and rest. In its 1989 response, the DOT acknowledged the unique demands placed on transportation workers such as shift-work, long-haul operations, and nighttime duty and that it would review its current policy on developing educational materials. In a more detailed response in 1996, the DOT indicated that it had published its 1995 report *Sharing the Knowledge: Department of Transportation Focus on Fatigue* and produced two videotapes that addressed fatigue: one on human factors and one entitled *Fatigue Busters—How to Survive Fatigue in the ’90s*. In addition, the FAA also published a fatigue buster brochure. The Safety Board replied that it was pleased that information had been produced for aviation and highway, but it was concerned that similar information had not been developed for railroad, marine, and mass transit. On May 4, 1999, the DOT provided the Safety Board with an update of FRA education activities. Safety Recommendation I-89-2 is currently classified “Open—Acceptable Response.”
In the early 1990s, NASA developed an education and training module entitled "Alertness Management in Flight Operations." It contains information about fatigue with an emphasis on aviation. The module has three primary objectives: to explain (1) the current state of knowledge about the physiological mechanisms that underlie fatigue; (2) misconceptions about fatigue; and (3) fatigue countermeasures. The NASA and the FAA have cosponsored many courses to educate pilots for a large segment of the major U.S. air carriers as well as for corporate management. The FRA, the Federal Transit Administration (FTA), and the FHWA along with industry organizations have used the NASA countermeasures training module as the basis for training modules in the other modes of transportation.

In addition to Safety Recommendation I-89-2, the Safety Board has issued other recommendations to the individual modal administrations calling for increased educational efforts regarding the effects of fatigue. In 1995, the Safety Board asked the FHWA to develop and disseminate, in consultation with DOT's Human Factors Coordinating Committee, a training and education module to inform truckdrivers of the hazards of driving while fatigued (Safety Recommendation H-95-5). The FHWA and the American Trucking Associations, Inc., adapted the NASA module for use with the commercial driving industry and developed a train-the-trainer course on fatigue and fatigue countermeasures. To date more than 2,000 people have been trained; 16 seminars are being offered in 1999. Safety Recommendation H-95-5 to the FHWA was classified "Closed—Acceptable Action" on July 7, 1998.

In 1996, the Safety Board also asked the FTA, in cooperation with the American Public Transit Association, to develop a fatigue educational awareness program and to distribute it to transit agencies to use in their fitness-for-duty training for supervisors and employees involved in safety-sensitive positions (Safety Recommendation R-96-20). The FTA has developed a seminar, available in four different formats, for a variety of attendees including employees, managers, and persons involved in scheduling. The Safety Board is pleased with this effort of the FTA and is aware that more than 600 persons have attended the seminars. As a result of these efforts, the Safety Board has classified Safety Recommendation R-96-20 "Closed—Acceptable Action."

In aviation, the Safety Board asked the FAA to require U.S. air carriers operating under 14 CFR Part 121 to provide educational programs for pilots (Safety Recommendation A-94-5), to require 14 CFR Part 135 air carriers to provide fatigue countermeasure information to air crews in initial and recurrent training (A-94-73), and to provide fatigue information to the

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10 National Transportation Safety Board. 1995. Factors That Affect Fatigue in Heavy Truck Accidents. Safety Study NTSB/SS--95/01 and NTSB/SS--95/02. Washington, DC.


general aviation community (A-97-20). The FAA revised Advisory Circular 120-51B to include fatigue as one of the topics discussed in crew resource management training. The FAA also developed educational materials to address the hazards of fatigue for use in safety meetings. These three recommendations have been classified “Closed—Acceptable Action.”

In 1997, the Safety Board asked the USCG to advise marine pilots about the effects of fatigue on performance and about sleeping disorders such as sleep apnea (Safety Recommendation M-97-41). In a letter dated November 11, 1998, the USCG indicated that it has discussed the effects of fatigue and sleeping disorders with the American Pilots Association and independent pilot associations, requesting that they inform their members of the dangers of sleeping disorders such as sleep apnea through their internal media. Further, Navigation and Vessel Inspection Circular No. 2-98, Physical Evaluation Guidelines for Merchant Marine’s Documents and Licenses, contains guidelines for use by physicians performing physical examinations of mariners and includes sleeping disorders as conditions to be evaluated for original and renewals of marine pilots’ licenses and for the required pilots’ physicals. Safety Recommendation M-97-41 was classified “Closed—Acceptable Action” on April 6, 1999.

The Safety Board is aware that the USCG has developed a research and educational program on crew endurance. The Board is also aware that the USCG held a workshop on fatigue on April 6, 1999, aimed at masters and safety management personnel of tugs and barges, passenger vessels, and fishing vessels as well as USCG personnel. The Board encourages the USCG to add more workshops to its agenda. Such programs could be promoted through the USCG’s Prevention Through People program. The USCG has not developed any brochures on operator fatigue for the mariner community.

The Safety Board also issued a recommendation to the FHWA asking that educational materials be developed for commercial truckdrivers (H-90-21, classified “Closed—Acceptable Action”). The FHWA has developed and disseminated the brochure Awake at the Wheel and fatigue videos; it has also developed courses to educate truckdrivers about the dangers of driving while drowsy. In February 1999, the Board asked the FHWA to ensure that the dangers of inverted sleep periods are discussed in the fatigue video being developed for motorcoaches (Safety Recommendation H-99-4A).

The Safety Board is pleased to see the increase in educational efforts on fatigue among the DOT modal administrations, particularly the current activities within the FTA. The Safety Board would like to see more efforts in marine and pipeline to develop and disseminate educational materials on fatigue and will continue to monitor these activities. The FAA, FHWA, FRA, and

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FTA have satisfactorily met the intent of this recommendation; however, the Board urges these modal administrations to continue their efforts in this area. Pending further efforts by the RSPA and the Coast Guard to develop and disseminate educational information on fatigue in marine and pipeline operations, respectively, Safety Recommendation I-89-2 remains classified “Open—Acceptable Response.”

Safety Recommendation I-89-3

Safety Recommendation I-89-3 asked the DOT to review and upgrade regulations governing hours of service to assure that they are consistent and that they incorporate the results of the latest research on fatigue and sleep issues. In 1989, the DOT stated that it was reviewing the regulations pertaining to hours of service. It had not found research to suggest that the regulations should be consistent across all modes of transportation and that it would continue with research efforts to determine what changes might be made.

The Board has been very disappointed in the DOT’s lack of progress in revising the hours-of-service regulations. Subsequently, the Safety Board made specific recommendations to the FAA and FHWA to revise the hours-of-service regulations. In conjunction with its investigation of the crash of American International Airways at Guantanamo Bay, Cuba, in August 1993, the Safety Board recommended that the FAA:

Revis[e] the applicable subpart of 14 CFR Part 121 to require that flight time, accumulated in noncommercial “tail end” ferry flights conducted under 14 CFR Part 91 as a result of 14 CFR Part 121 revenue flights, be included in the flight crewmember’s total flight and duty time accrued during those revenue operations. (A-94-105, classified “Closed—Acceptable Action/Superseded” by Safety Recommendation A-95-113)

Expedite the review and upgrade of Flight/Duty time limitations of the Federal Aviation Regulations to ensure that they incorporate the results of the latest research on fatigue and sleep issues. (A-94-106, classified “Closed—Acceptable Action/Superseded” by Safety Recommendation A-95-113)

In its report of the accident involving an Air Transport International DC8-63 at Kansas City International Airport in February 1995,\textsuperscript{18} the Safety Board recommended that the FAA

Finalize the review of current flight and duty time regulations and revise the regulations, as necessary, within 1 year to ensure that flight and duty time limitations take into consideration research findings on fatigue and sleep issues. The new regulations should prohibit air carriers from assigning flight crews to flights conducted under 14 CFR Part 91 unless the flight crews meet the flight and duty time limitation of 14 CFR Part 121 or other appropriate regulations. (A-95-113, currently classified “Open—Acceptable Response”)

In its study of aviation safety in Alaska,\textsuperscript{19} the Safety Board asked the FAA to

Develop appropriate limitations on consecutive days on duty, and duty hours per duty period for flight crews engaged in scheduled and nonscheduled commercial flight operations, and apply consistent limitations in Alaska and the remainder of the United States. (A-95-125, currently classified “Open—Acceptable Response”)

On June 15, 1992, the FAA announced the establishment of the flight crewmember flight/duty rest requirements working group of its Aviation Rulemaking Advisory Committee (ARAC). In its final report submitted to the FAA on June 30, 1994, the working group indicated that although it had not reached consensus on the specific issues, it did agree on four major areas that should be addressed in FAA rulemaking: absence of a duty time limitation, reserve scheduling, back-side-of-the-clock operations, and scheduled reduced rest.

The FAA issued a notice of proposed rulemaking (NPRM) on December 20, 1995,\textsuperscript{20} 6 years after the Board issued Safety Recommendation I-89-3. Comments on the NPRM were originally due on March 19, 1996; however, the comment period was extended to June 19, 1996. The Board commented on the rulemaking on June 19, 1996, noting several favorable aspects to the NPRM:

- elimination of the ability of carriers to schedule flight crewmember duty during scheduled rest periods, inclusion of standby reserve time, deadheading time, and all duties performed for the airline as duty time in the determination of flight and duty time requirements;


\textsuperscript{19} National Transportation Safety Board. 1995. Aviation Safety in Alaska. Safety Study NTSB/SS-95/03. Washington, DC.

\textsuperscript{20} Federal Register, Vol. 60, No. 244, dated December 20, 1995.
• inclusion of ferry, instructional, maintenance, check, and other flights in the determination of flight and duty time requirements, requirements of minimum daily rest periods of at least 10 consecutive hours, and 36 consecutive hours of rest within 7 consecutive calendar days of duty, for flight crewmembers and flight engineers;

• establishment of explicit standards for approving on-board flight crew rest areas;

• permit extensions of daily flight and duty intervals to periods of no more than 2 hours and only for operational reasons beyond the control of the airline; and

• limits of duty periods for crewmembers on reserve assignments depending on the amount of advance notification of reporting time.

In its comments on the rulemaking, however, the Board also expressed concern that the proposed rule did not include effective mechanisms to address flight operation during the circadian night and circadian trough, and it lacked recognition of the fatiguing aspects of multiple takeoffs and landings. There were mixed industry reactions to the NPRM. In general, air carriers and air carrier organizations opposed the NPRM21 whereas pilot associations supported the proposal with some reservations, primarily a concern with loss of income from reduced flying hours and a desire for a more thorough discussion of back-side-of-the-clock flying time. According to the FAA, it received about 2,000 comments on the NPRM.

With no action since 1996 and the rulemaking effectively abandoned, on July 9, 1998, the ARAC on air carrier operations was assigned to provide a review and analysis of industry practice with regard to reserve duty for flight crewmembers, which is only a small part of the flight and duty time issue. A working group was formed and ultimately delivered recommendations to the FAA on February 9, 1999.22 The pilots and air carriers on the working group were able to agree on the following:

1. A pilot should be scheduled by the operator to receive a protected time period as an opportunity to sleep for every day of reserve duty. The operator may not contact the pilot during this period.

2. An operator should limit the movement of the pilot’s protected time period during consecutive days of reserve duty to ensure circadian stability.

3. A reserve pilot’s availability for duty should be limited to prevent pilot fatigue as a result of lengthy periods of time-since-awake.

4. Sufficient advance notice of a flight assignment can provide a reserve pilot with a sleep opportunity.

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The pilots and the air carriers, however, could not reach agreement about how to meet these goals. The Safety Board understands the difficulty in reaching an agreement on the issue of reserve duty and rest; nevertheless, it remains deeply concerned and disappointed that no further rulemaking action has been taken on the overall issue of hours of service and that duty and rest requirements continue to be different for Part 121 and Part 135 operations. According to the FAA, rather than proceed to a final rule with the NPRM, it will likely issue a supplemental NPRM, which, in the Safety Board's opinion, will only further delay any resolution to this important safety issue.

In its 1995 study on factors that affect fatigue in heavy truck accidents, the Safety Board asked the FHWA to

Complete rulemaking within 2 years to revise 49 CFR 395.1 to require sufficient rest provisions to enable drivers to obtain at least 8 continuous hours of sleep after driving for 10 hours or being on duty for 15 hours. (H-95-1, currently classified “Open—Unacceptable Response”)

Complete rulemaking within 2 years to eliminate 49 CFR 395.1 paragraph (h), which allows drivers with sleeper berth equipment to cumulate the 8 hours of off-duty time in two separate periods. (H-95-2, currently classified “Open—Unacceptable Response”)

In November of 1996, the FHWA issued an advance notice of proposed rulemaking (ANPRM) that sought additional fatigue research. Rather than proposing any changes to the current hours-of-service regulations, the ANPRM was a general solicitation for comments on hours-of-service regulations. The comment period closed on March 31, 1997. The FHWA received about 1,600 comments to the ANPRM. An expert panel was convened in the summer of 1998 to review and evaluate, based on selected scientific criteria established by the panel, a series of hours-of-service proposals. None of the proposals met the scientific criteria established. The expert panel also developed an additional proposal intended to meet the scientific criteria established.

Currently, the FHWA has reported that it is pursuing two different avenues of rulemaking—traditional rulemaking and negotiated rulemaking. In a letter dated November 3, 1998, the FHWA indicated that it intended to publish an NPRM in early 1999, was contracting with the University of Michigan Transportation Research Institute to perform a cost/benefit analysis, and was considering negotiated rulemaking to expedite the process. In a response dated February 25, 1999, to the FHWA, the Safety Board expressed disappointment that it had taken

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23 National Transportation Safety Board. 1995. Factors That Affect Fatigue in Heavy Truck Accidents. Safety Study NTSB/SS-95/01 and NTSB/SS-95/02. Washington, DC.


25 Basically, a procedure by which representatives of all interests affected by a rulemaking are brought together to discuss fully the issues under conditions conducive to narrowing or eliminating differences and to negotiating a proposed rule acceptable to each interest.
more than 18 months since the ANPRM comment period closed to reach the NPRM stage and that the FHWA expected that a 120-day comment period on the NPRM would not be sufficiently long to receive comments, thus prolonging activity to issue a final rule. The Safety Board also indicated that it would support a negotiated rule if it would expedite the process. In testimony at the Safety Board's April 14, 1999, public hearing on truck and bus safety, an FHWA representative indicated that a decision on negotiated rulemaking was expected to be made within 2 weeks. The FHWA representative also indicated that development of an NPRM through the traditional process was taking place simultaneously with the discussions on a negotiated rule to avoid any further loss of time.

In a May 4, 1999, letter to the Safety Board, the DOT indicated that “FRA submitted legislation to Congress last year, and may again this year, to require railroads to submit fatigue management plans designed to reduce fatigue experienced by railroad employees.” The letter further stated that “should we be successful in gathering support and passage of such a legislative initiative, we believe fatigue will be greatly reduced in railroad operations.”

Although the DOT and the modal administrations have taken positive steps in the area of education and research, they have not acted decisively to revise the antiquated hours-of-service regulations. In fact, as outlined above, little regulatory action has been initiated. The DOT believes that countermeasures to fatigue are preferred over regulation because sleep during a rest period cannot be enforced. The Safety Board points out that hours-of-service rules exist to set limits on allowable scheduling practices, not to prescribe those schedules, and while the Board agrees that sleep cannot be regulated, it also believes that time for adequate sleep must be guaranteed by any Federal regulation related to hours of service.

The Safety Board is aware that the FHWA, and others, are looking at onboard devices to test fitness-for-duty and monitor impairment of operator performance. Although the Safety Board supports pre-duty testing for performance as a result of fatigue, alcohol, drugs, or other condition, it does not believe that operators should be driving up to the point that they fail a valid fitness-for-duty test as a result of fatigue, which could occur in the middle of a trip.

In 1998, DOT Secretary Slater launched the ONEDOT program. This program is to build on collaborative efforts among the various transportation agencies to reduce duplication and save resources. One of the goals of ONEDOT is to develop a common, positive framework relating to work hours, overtime, and incentives. Within the concept of ONEDOT, the DOT Safety Council works toward development of a safety policy for the Department. Fatigue is one of the areas on which the Council intends to act. The Safety Board acknowledges this as yet another initiative to address fatigue and revisions to hours-of-service regulations; nevertheless, the Board remains extremely disappointed in the lack of rulemaking by the DOT.

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25 The hearing was held April 14–16, 1999, in Washington, D.C. Discussion panels included representatives from the DOT, highway transportation industry, and public safety groups.

Scientific research has shown that certain sleep factors can affect fatigue and performance: insufficient sleep, irregular and unpredictable schedules, working during low points in the circadian rhythm. The current hours-of-service regulations do not accommodate these concerns. The Safety Board believes these factors should be considered when revising the hours-of-service regulations. Therefore, the Safety Board recommends that the DOT require the modal administrations to modify the appropriate Codes of Federal Regulations to establish scientifically based hours-of-service regulations that set limits on hours of service, provide predictable work and rest schedules, and consider circadian rhythms and human sleep and rest requirements. The Safety Board also recommends that the DOT seek Congressional authority, if necessary, for the modal administrations to establish these regulations. Based on the issuance of this new recommendation, Safety Recommendation I-89-3 is being classified “Closed—Unacceptable Action/Superceded.” The Safety Board is also recommending separately that each modal administration—the FAA, FHWA, FRA, USCG, and RSPA—establish, within 2 years, scientifically based hours-of-service regulations that set limits on hours of service, provide predictable work and rest schedules, and consider circadian rhythms and human sleep and rest requirements. Further, because the FAA’s efforts have not resulted in any changes to the flight and duty time regulations, the Safety Board is reclassifying Safety Recommendations A-95-113 and A-95-125 “Open—Unacceptable Response.” These recommendations are being reiterated in conjunction with the Board’s safety report. For the FHWA, the revised regulations, at a minimum and as recommended by the Safety Board in 1995, should also (a) require sufficient rest provisions to enable drivers to obtain at least 8 continuous hours of sleep after driving for 10 hours or being on duty for 15 hours, and (b) eliminate 49 CFR 395.1 paragraph (h), which allows drivers with sleeper berth equipment to cumulate the 8 hours of off-duty time in two separate periods. As a result of this new recommendation to the FHWA, Safety Recommendations II-95-1 and II-95-2 are being classified “Closed—Unacceptable Action/Superceded.”

Therefore, the National Transportation Safety Board recommends that the U.S. Department of Transportation:

Require the modal administrations to modify the appropriate Codes of Federal Regulations to establish scientifically based hours-of-service regulations that set limits on hours of service, provide predictable work and rest schedules, and consider circadian rhythms and human sleep and rest requirements. Seek Congressional authority, if necessary, for the modal administrations to establish these regulations. (I-99-1) (Supersedes I-89-3)

As a result of the safety report, the Safety Board also issued recommendations to the Federal Aviation Administration, the Federal Highway Administration, the Federal Railroad Administration, the Research and Special Programs Administration, and the U.S. Coast Guard.
Please refer to Safety Recommendation I-99-1 in your reply. If you have any questions, you may call (202) 314-6517.

Chairman HALL, Vice Chairman FRANCIS, and Members HAMMERSCHMIDT, GOGLIA, and BLACK concurred in this recommendation.

Original Signed

By: Jim Hall
Chairman
The Honorable Jim Hall
Chairman, National Transportation Safety Board
490 L'Enfant Plaza East, SW
Washington, DC 20594

Dear Chairman Hall:

We have reviewed the National Transportation Safety Board's safety recommendation letter dated June 1, 1999. As a result of its investigation into fatigue related casualties, the Board issued recommendation M-99-1 to the Coast Guard. The following is our response to this recommendation.

M-99-1

Establish within 2 years scientifically based hours-of-service regulations that set limits on hours of service, provide predictable work and rest schedules, and consider circadian rhythms and human sleep and rest requirements.

Status

The Coast Guard partially concurs with this recommendation. In recent years, the Coast Guard has led the way at the International Maritime Organization (IMO) in addressing fatigue as a major issue. We were successful in having IMO adopt a resolution calling attention to the variety of factors which contribute to fatigue and we were successful in having the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW) amended in 1995 to include rest hour requirements for watchkeeping personnel on seagoing ships and to include the posting of watch schedules. This amendment came into force in February 1997, and our implementing regulations were issued in June 1997. These rules compliment work hour limitations imposed on crew members serving on tank vessels by the Coast Guard regulations implemented as a result of the Oil Pollution Act of 1990.

The Coast Guard has sponsored domestic research in the field of fatigue continuously over the last ten years. None of these studies, including the report issued in 1996 entitled "Fatigue and Alertness in Merchant Marine Personnel: A Field Study of Work and Sleep Patterns," has suggested that new limits on hours of service would be the most effective means of addressing the problem of fatigue in the U.S. marine industry. In fact, the research has primarily confirmed that the problem of fatigue among personnel in the marine mode is highly complex and is
influenced by a wide variety of environmental, operational, and individual factors, some of which are unique to this industry.

The Coast Guard is continuing its efforts in this area. We currently have two ongoing research studies focusing on fatigue. The first, "Watchkeeping Alertness in Towing Operations," is expected to be concluded by May 30, 2000. The second, "Improving Crew Alertness on Commercial Vessels," is examining the incidence of fatigue on oil tankers and is expected to be completed by October 16, 2000. We are also planning for a follow-up project, "Shipboard Fatigue Countermeasures Analysis," to rank fatigue-reducing countermeasures on the basis of effectiveness and which is scheduled to be completed by July 18, 2003. We have also conducted research to develop a Crew Size Evaluation Model to identify objective, systematic methods for determining and evaluating safe vessel manning based on the tasks the crew is expected to perform and on vessel operational profiles.

The maritime industry has also taken the initiative to recommend and implement fatigue mitigating operational alternatives. Recently, the Chemical Transportation Safety Advisory Committee proposed an alternative watch schedule based on the German model that deviates from the traditional 4 hours on watch, 8 hours off watch rotating schedule. Several shipping companies have implemented the modified watch schedule on a voluntary test basis with very positive results. At least one company has continued to use the alternative watch schedule on some of its vessels. The Coast Guard is studying the efficacy of such alternative watch schedules.

Collectively, these research efforts should provide a good basis for practical guidance for the marine industry, but they are not expected to establish a scientific basis to support additional regulatory efforts to mandate new limits on hours of service. In addition, the Coast Guard will consider the following developments which would play a large part in the success of any rulemaking effort to introduce new limits on hours of service in marine industry.

a. The STCW, as amended, includes provisions to prevent fatigue. The Coast Guard worked hard at IMO to ensure that these provisions would be included in the amendments adopted in 1995. Watchkeeping personnel must be afforded 10 hours of rest in any 24-hour period, and this 10 hours can be divided into two segments, as long as one segment provides at least 6 continuous hours of rest. At least 70 hours of rest must be provided each week. There are exceptions for emergencies and other overriding operational conditions, but there is also a provision stating that not all of the non-rest hours should be devoted to work. This STCW regulation came into force on February 1, 1997, and the Coast Guard issued implementing regulations in July 1997. Additional experience will be required to determine whether this rule is achieving its intended objective, and whether additional guidance will be needed from the IMO.

b. In 1996, an international conference hosted by the International Labour Organization (ILO) adopted the "Seafarers' Hours of Work and the Manning of Ships Convention."
convention includes a framework of work hour limits and rest requirements. Although this treaty is not yet in force, we anticipate that the U.S. Department of Labor will in due course be taking steps toward U.S. ratification of this instrument. In this event, there will be a need to review the current U.S. statutory work hour provisions (46 USC 8194) to determine whether they should be revised, and whether the legislation enacted to support enforcement and implementation of the treaty should include a general delegation to the Department of Transportation to promulgate limits on hours of service.

c. At its meeting in May 1999, the IMO Maritime Safety Committee approved new guidance on the principles of safe manning. Among other things, this guidance calls on administrations, when determining minimum crew complements, to take into account peak workload situations and applicable work hour limits and rest requirements. The guidance also states that administrations “should review and may withdraw, as appropriate, the minimum safe manning document of a ship which persistently fails to be in compliance with the rest hours requirements.” This guidance is to be adopted by the IMO Assembly in November 1999. We mention this effort to show that there is a direct link among manning, management, and organization of shipboard work, and the need to have a work-hour/rest period framework which prevents fatigue.

In summary, while the complexities of the maritime transportation system preclude the Coast Guard from establishing scientifically based hours of service at this time, progress is being made on multiple levels, internationally as well as domestically, to rationally frame and address the fatigue issue on commercial vessels. The Coast Guard intends to continue sponsoring research domestically, and leading efforts internationally, with the aim of identifying and promoting the best practices and most effective countermeasures to control fatigue.

Sincerely,

T. W. Josiah
Vice Admiral, U. S. Coast Guard
Chief of Staff
Gulf Coast Mariners Association

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November 17, 2000

Mr. James Hall, Chairman
National Transportation Safety Board
490 L’Enfant Plaza, SW
Washington, DC 20594

SUBJECT: NTSB Recommendation #M-99-1

References: Coast Guard Letter on this Subject Dated 8 Oct 1999 [ENCLOSURE #1]
Gulf Coast Mariners Association Letter Dated June 16, 2000 [ENCLOSURE 2]

Dear Chairman Hall,

We wish to take issue with the Coast Guard’s response to Recommendation M-99-1. [ENCLOSURE #1]
A clear majority of the nation’s commercial mariners (and most of the members of our Association) are "lower-level" mariners who work on small vessels such as tugs, towboats, offshore supply vessels, small passenger vessels, uninspected passenger vessels et al. under 1,600 gross tons.
A majority of these "lower-level" mariners do not belong to labor unions. As such, they do not have the benefit of working under collective bargaining agreements but, rather, are "employees at will" who may be fired for any reason. As such, many have been called upon to violate work hour provisions of existing statutes and regulations.
The Gulf Coast Mariners Association brought this matter to your attention in the book Mariners Speak Out On Violation of the 12-Hour Work Day furnished as an enclosure to our letter of June 16, 2000 [ENCLOSURE 2].

While Vice Admiral T.W. Josiah, Coast Guard Chief of Staff, appears to have fixed his attention on "...the traditional 4 hours on watch, 8 hours off watch rotating schedule" he has nothing to say about the "two-watch system" that is used by a very substantial number of lower-level mariners. Apparently this fact escaped him while served as District Commander of the Eighth Coast Guard District for several years—right in the midst of "two-watch" country.

We are willing to continue to follow the results of various Coast Guard "fatigue" studies that are reported to continue until July 18, 2003 (and probably beyond, if we allow time for evaluation and publication). However, we note that this process appears to us to be little more than perpetual procrastination coupled with an unwillingness to enforce existing statutes and regulations. Our modest request to initiate rulemaking to require mariners to make adequate logbook entries certifying the number of hours worked in a 24 hour period has been side tracked for months and
faces an uncertain future. This stands in stark contrast to the record keeping requirements for truck drivers under the purview of the DOT’s Federal Motor Carrier Safety Administration.

Very truly yours,

[Signature]

Richard A. Block
Master #830614
Secretary, Gulf Coast Mariners Association
Whistleblower Protection for Limited Tonnage Mariners

The term “Whistleblower” refers to a person who reports illegal activity to the authorities. By “illegal” we refer to an act that violates an existing statute enacted by a legislative authority or a regulation promulgated by a governmental agency authorized to prepare and administer regulations.

Employers, including government agencies, often resent employees who “blow the whistle” to report a statutory or regulatory violation. Consequently, to maintain meaningful safety regulations it is often necessary to provide “protection” from an employer’s retaliation that includes interfering with him in the workplace, encourage him to quit his job, or firing him. The government, either federal or state, often provides a whistleblower limited protection by law. In the case of mariners, the statute is 46 U.S. Code §2114 titled “Protection of Seamen Against Discrimination” that was amended significantly by §611 of the Coast Guard Authorization Act of 2010. For mariners, this amendment has the potential to improve the outlook of whistleblower protection for mariners.

In the past, if a mariner believed he had been discriminated against (e.g., harassed, demoted or lost his job) for making a safety report to the Coast Guard or the NTSB, it was pretty much his tough luck. A credentialed officer has a legal obligation to report an unsafe or illegal condition aboard his vessel. However, in doing so, the officer not only may risk his job but also may risk his entire career in the marine industry. Most employers do not want their employees to report anything directly to the Coast Guard and, in many cases, the Coast Guard either discourages or fails to investigate such reports.

 Attorney Jeff Bloomfield, on behalf of the American Inland Mariners Association (AIM), brought the hopeless situation mariners faced in reporting unsafe or illegal conditions to the attention of the former House Merchant Marine and Fisheries Committee on Mar. 16, 1994. He cited three legal precedents that ensured that many mariner complaints would be quashed.

One of the most important steps our Association took in May 2000 was to present on behalf of our mariners a report that described these conditions in detail to the Eighth District Commander, RADM Pluta, who subsequently became the Coast Guard’s Chief of Marine Safety. Although we delivered over 300 copies of this report to key Coast Guard personnel and other interested parties, the Coast Guard effectively stonewalled our report by delegating it to the National Offshore Safety Advisory Committee (NOSAC) that worked hard to kill or discredit the report. After 18 months of wrangling, the Chairman of the sub-committee assigned to the project resigned.

The Admiral’s lack of respect for our mariners was an important factor that set the stage for the decline of the Marine Safety Directorate for the next decade and ultimately led to a major reorganization called for in the Coast Guard Authorization Act of 2010.

After the Coast Guard stonewalled our mariners, we approached Congress with our problem. Although initially receptive, an early but well-intentioned change to the existing statute in 2004 failed to obtain meaningful results for our mariners. Congress tried again and in 2010 provided important changes that ensure that if a mariner becomes a whistleblower for a valid reason, he or she will be accorded the same administrative treatment as all other workers in the transportation industry by the U.S. Department of Labor that has the background in labor management issues lacking in the Coast Guard.

Our Association never sought special treatment for our mariners; we only sought fair and equitable treatment that we believe may be now within our grasp because the U.S. Department of Labor and not the Coast Guard will settle future whistleblower disputes. Our experience with this issue showed that the Coast Guard had no real interest in our working mariners or a satisfactory understanding of the labor issues that arise between employers and their employees over safety. In fact, the Coast Guard continues to turn its back on “labor issues” leaving our mariners with no place to turn when the Coast Guard establishes working “partnerships” with industry trade associations that denigrates meaningful input from working mariners.

Unfortunately, as we explained to our mariners, the wording of the amended statute that follows is complicated. Nevertheless, the first step is to start by reading it after minor editing:

(a) In General – Section 2114 of title 46, United States Code, is amended –
(1) in subsection (a)(1)(A), by striking “or” after the semicolon;
(2) in subsection (a)(1)(B), by striking the period at the end and inserting a semicolon;

(3) by adding at the end of subsection (a)(1) the following new subparagraphs:

(C) the seaman testified in a proceeding brought to enforce a maritime safety law or regulation prescribed under that law;

(D) the seaman notified, or attempted to notify, the vessel owner or the Secretary of a work-related personal injury or work-related illness of a seaman;

[NMA Comment: We emphasize to our mariners that the first requirement is to notify or attempt to notify your employer of all safety issues.]

(E) the seaman cooperated with a safety investigation by the Secretary or the National Transportation Safety Board;

(F) the seaman furnished information to the Secretary, the National Transportation Safety Board, or any other public official as to the facts relating to any marine casualty resulting in injury or death to an individual or damage to property occurring in connection with vessel transportation; or

(G) the seaman accurately reported hours of duty under this part, and

[NMA Comment: Our mariners need to connect paragraph (G) with the new “logbook” requirement in §607 to accurately report their hours of duty in the Official Logbook.]

(4) by amending subsection (b) to read as follows:

(b) A seaman alleging discharge or discrimination in violation of subsection (a) of this section, or another person at the seaman’s request, may file a complaint with respect to such allegation in the same manner as a complaint may be filed under subsection (b) of Section 31105 of title 49. Such complaint shall be subject to the procedures, requirements, and rights described in that section, including with respect to the right to file an objection, the right of a person to file for a petition for review under subsection (c) of that section, and the requirement to bring a civil action under subsection (d) of that section.

[NMA Comment: In concert with Stephen Chouest, Esq., our Association prepared a report to assist our mariners to understand these new requirements. This is NMA Report #R-210, Rev. 2 titled Whistleblower Protection for Merchant Marine Officers.]

Although our NMA Report#R-210, Rev.2 may be challenging to follow, one of our mariners had a recent experience where the Department of Labor looked into his claims and obtained a settlement for lost wages after he reported serious health issues on a river towboat that Coast Guard investigators were not even interested in looking into.

Over the past decade, our Association dealt with many mariners who became frustrated after trying to report unsafe and possibly illegal activities to the Coast Guard. Consequently, we stepped forward and documented numerous cases and reported them instead to the Department of Homeland Security Inspector General’s Office where they attracted attention in their report on “Investigations” published in May 2008. The report on investigations was previously requested by Congress. [Reprinted as NMA Report #R-429-M].

Our Preliminary Advice to Potential Whistleblowers

Nobody begged you to obtain a Coast Guard credential. You did so voluntarily and of your own free will for reasons that you found important – career advancement, prestige, better pay, etc. You applied for the credential studied for it, and finally tested and, when successful, were issued a credential with one or more “endorsements” in a passport-style booklet. Before the Coast Guard finally issued the credential you were administered and signed an oath that reads as follows:

“I do solemnly swear or affirm that I will faithfully and honestly, according to my best skill and judgment, and without concealment and reservation, perform all the duties required of me by the laws of the United States. I will faithfully and honestly carry out the lawful orders of my superior officers aboard a vessel.”

This oath assumes that you know what the “laws of the United States” are as they govern the maritime industry. Many, but not all, of these “laws” are contained in Title 46, U.S. Code (Shipping). These laws are explained in
greater detail in the Coast Guard regulations found in Title 46, Code of Federal Regulations, parts 1-199 (Shipping) and Title 33 Code of Federal Regulations, Parts 1-199 (Navigation and Navigable Waters).\(^{(1)}\) \(^{(1)}\)Described in NMA Report #R-223, Rev. 4.\]

Unfortunately, many mariners receive their credentials with an incomplete knowledge of the basic laws and regulations that govern the maritime industry. We advise our mariners not to “blow the whistle” to stop an “illegal” activity until determining whether that activity really is illegal and whether it violates some law or regulation. Just because something is unsafe does not always guarantee it is illegal. We recommend that mariners read and study the applicable regulations and obtain legal advice before “blowing the whistle.” Our website contains the names and contact numbers of Attorneys that will provide sound legal advice to our mariners.

**Boardings and Inspections**

Offshore Supply Vessels (OSV) and Small Passenger Vessels (SPV) are “inspected” vessels that are strictly regulated by Coast Guard regulations. Some, but not all, vessel owners provide copies of the statutes and regulations on board their vessel to give licensed officers an on-board reference and a clear idea of the laws and rules the vessel must comply with. However, they are not required to do so! The Government Printing Office website contains an updated version of the Code of Federal Regulations at [http://ecfr.gpoaccess.gov](http://ecfr.gpoaccess.gov).

Towing vessels, on the other hand, remained as “uninspected” vessels until Aug. 9, 2004 when Congress added them to the list of inspected vessels. However, until the Coast Guard promulgates the necessary interim or final inspection regulations, towing vessels for all intents and purposes will be treated as “uninspected” vessels.

At present, the Coast Guard does not conduct regularly scheduled inspections of towing vessels or other “uninspected” vessels in the water or out of the water that follows a detailed checklist supported by a detailed set of regulations. However, all towing vessels must comply with existing regulations that cover the basic essentials of lifesaving and firefighting equipment and a few other specific items under what has become known as the “Bridging program” designed to bridge the gap\(^{(1)}\) between existing and new regulations. A full transition may take a few additional years to accomplish. \(^{(1)}\)Refer to U.S. Coast Guard Requirements for Uninspected Towing Vessels, Change 1, Mar. 2009. Also refer to NMA Report #R-234, Rev.2 for required logbook entries.

The Coast Guard may “board” any inspected or uninspected vessel at any time. “Boardings” are done on a random basis by an armed “boarding party” and are quite different from an “inspection” where the mariners, boat owners, and Coast Guard inspectors have plenty of time to prepare in advance and the inspectors are not armed!

**The Whistleblower Statute Reinforces a Mariner’s Obligation to His Employer**

If something is “wrong” with your boat or with the job you are assigned to do that makes it unsafe for yourself or your crew, the first person you must tell about the situation is your employer.

If you believe the job you are supposed to undertake cannot be undertaken legally or safely\(^{(1)}\) you must first tell your employer about it in an open and frank manner. It may be to your advantage to have a witness to this conversation or to record it in your official logbook if the conversation occurs over the radio or by telephone. However, unless you first notify your employer of the problem and ask for his help you may not be successful in obtaining whistleblower protection if you need it later. We reiterate that a mariner’s first obligation is to discuss safety issues with his employer.\(^{(2)}\) \(^{(2)}\)A Master is responsible for the safety of his vessel and its crew and the immediate supervisor of his vessel. \(^{(2)}\)By “employer” we mean your immediate supervisor such as the vessel’s Master followed by a Port Captain but not necessarily the CEO of a large corporation.

**The Slippery Slope of Previous Whistleblower Protection Legislation**

*The key point to remember about federal whistleblower protection is that it is very limited in its scope.* Most government agencies believe they are strong enough to enforce their regulations and only need limited help from outsiders in doing so. The Coast Guard is “spread thin” while it often appears to encourage the active support of mariners and members of the public. Unfortunately, limited-tonnage mariners often were discouraged from trying to use 46 U.S. Code §2114 before its recent amendment. The reasons for this will become clear as you review three cases that reached Federal District Courts and moved on to Courts of Appeal in the 1980s. The courts’ interpretations were very discouraging for mariners who frequently saw laws and regulations violated with no punishment meted out. We believe the 2010 amendments to 46 U.S. Code §2114 are better aligned to protect mariners who present legitimate whistleblower claims. Yet, one very recent Federal court decision\(^{(4)}\) renews our skepticism of the entire process. \(^{(4)}\)Refer to Manderson vs. Chet Morrison Contractors in Chapter 14 (below)."
**Case #1: Feemster Vs BJ – Titan**

Richard P. Feemster, Sr., was a tugboat captain who worked for BJ-Titan, an oilfield service company, on the M/V June J pushing barges. At about 1700 hours on Feb. 18, 1987, his employer instructed him to push a barge from Venice, LA, to Lake Pagie, LA, a voyage estimated to take 18 hours. Feemster claimed that BJ-Titan required him to make this trip without providing for adequate rest although his employer disputed that point.

Feemster refused to make the run on the grounds that it was too long to be safely navigated by one person and that it would violate a federal law that restricts towing vessel operation to 12-hours in a 24-hour period (i.e., 46 U.S. Code §8104(h). When Feemster refused to accept the assignment, BJ-Titan management fired him.

Feemster, like most of our limited-tonnage mariners, was employed on an “at will” basis. This means that he was not a member of a union and had no contract covering the terms of his employment. Consequently, he could be fired for any reason or no reason at all, including even for a morally reprehensible reason. His attorney also had to concede that the existing statute (46 U.S. Code §2114) gave him no personal right to refuse a management directive he disagreed with even if it violated a safety statute. Feemster simply placed his judgment against that of his employer in saying that a safety violation would occur if he made the trip, and he refused the assignment. He was fired for his refusal. Since he never left on the trip, no violation of the law ever occurred.

An employee can complain of safety violations to the Coast Guard and ask for its help to prevent a violation. If Feemster had filed such a complaint (although he did not) and had been fired for doing so, he might have had a stronger argument that he was fired in retaliation for committing an unlawful act and might have gotten his job back.

[NMA Comment: Feemster did not enlist the aid of the Coast Guard after advising his employer of the safety violation. Since Feemster never set out on the voyage, he never violated the 12-hour statute.]

**Case #2: Garrie Vs James L. Gray, Inc.**

Hubert Garrie was employed by James L. Gray, Inc. as the captain of the M/V Mr. Bill that carried workers and equipment to various inland oilfield work sites. Texaco leased the boat and its crew from Gray on a day-to-day basis.

On several occasions in June 1986, Garrie piloted the boat on both a “day run” and a “night run” within the same 24-hour period and, in the process, worked in excess of the 12-hours per day limit set by 46 U.S. Code §8104(h). Since he believed this was both illegal and unsafe, Garrie informed a Texaco representative he would work no more than 12-hours per day, and that if Texaco planned both day and night runs the vessel would require another captain and a full crew. However, Garrie did not complain about his working hours to anyone at Gray, his direct employer – only to Texaco, the boat’s charterer.

Garrie then called a Coast Guard officer and identified himself but never identified his employer. Garrie asked whether the law regulating maximum working hours was still in effect. The Coast Guard officer advised Garrie that it was, but did not refer the matter to an investigator since Garrie stated he did not wish to file a formal complaint.

Garrie then informed Texaco that the Coast Guard confirmed that 12 hours was the maximum applicable working hours and that it was still his intention to refuse to work more than 12-hours per day.

Two days later Garrie was reassigned to another crewboat owned by Gray, the M/V Mr Jim, because Texaco felt that day and night runs might be necessary. Texaco complained to Garrie’s supervisors that if Garrie refused to make both runs, they should find another captain that would. Within the month after his reassignment, his new job vanished and Garrie was laid off.

[NMA Comment: Garrie violated the 12-Hour Rule, a fact he confirmed in speaking with the Coast Guard officer. After he was fired, Garrie filed suit in Federal District Court and later appealed to the Fifth Circuit Court of Appeals claiming wrongful discharge in that he was fired for making a report to the Coast Guard. Unfortunately, he did not report the problem to his employer and only inquired but never formally reported the matter to the Coast Guard.]

**Case #3: Meaige Vs Hartley Marine Corp. and Midland Enterprises**

Nicholas B. Meaige was employed by Hartley Marine Corporation from 1978 to 1988. He worked as a deckhand and pilot on vessels operating on the Ohio River, and, occasionally would be called on to serve as a pilot on what was called the Ashland fuel run. This run involved a round trip between Point Pleasant, WV, and Kenova, WV, where the fuel barges in his tow were loaded at an Ashland Oil Company refinery. The Ashland fuel run would last as long as 30 hours, depending on the water level and how long reloading at the Ashland refinery took.
The crew on this run consisted of only a pilot and a deckhand. The pilot was required to be available for the entire run from port to port and could not turn control of the vessel over to an unlicensed deckhand. There were no sleeping accommodations on the boat, no cooking facilities except a hotplate, and no refrigerator. Toilet facilities consisted of a garbage bag.

Meaige piloted the Ashland fuel run about 10 times. On his last run, while waiting for his barges to be reloaded, he called his supervisor and asked for a relief crew. He explained that he and his deckhand were too fatigued to safely make the return trip. His supervisor refused to supply a relief crew, and, on the return trip, the barges were involved in a minor lock wall allision at Gallipolis Locks.

In March 1988, Meaige’s supervisor again requested that he make the Ashland fuel run. He refused and stated that he would not make any more fuel runs unless there was a relief crew available. He also complained that 24-hours was too long to stay on that boat with no shower and bathroom facilities and the boat was too noisy. He was immediately fired.

[NMA Comment: Meaige brought a “wrongful discharge” action against his employer that did not prevail. Meaige did not enlist the aid of the Coast Guard after advising his employer of the safety violation. However, Meaige repeatedly broke the 12-hour statute before he was fired.]

Discouraged Mariners React to a Deck Stacked Against Them

In a letter dated Mar. 16, 1994 Lee J. “Jeff” Bloomfield, Esq., who represented the American Inland Mariners Association (AIM), and later Pilots Agree, as well as various mariners recommended to him by our Association, made these pertinent comments to the House Merchant Marine and Fisheries Committee:

“There may be situations, however, where a seaman is instructed to perform a prohibited task, and is thus faced with either violating the law (after which the Coast Guard can be notified, and the protection of 46 U.S. Code §2114 is applicable), or refusing the instruction (in which case the seaman has no protection from employer retaliation). This creates the situation where a seaman must first violate the statute to avoid retaliatory discharge before he/she will be in a position to report the violation to the Coast Guard. This obviously negates the safety benefit that the statutes were enacted to promote in the first place. Also, it places the licensed mariner in the precarious position of either losing his/her license if caught in the violation, or facing the loss of employment if he/she refuses the violative act. Allowing a maritime employer to terminate a seaman for refusing to violate a safety statute thus weakens the efficiency of the entire safety scheme established by federal statute and regulation…”

The case law clearly shows that most limited tonnage mariners have good reason not to report violations of safety statutes and regulations either to their employers or to the Coast Guard. In all three cases outlined above, the mariners were retaliated against, were fired, took their cases to court, lost, and had to foot the bill for their efforts. In two of the three cases, the mariners actually broke the law and could have placed their credentials in peril of suspension or revocation. Aside from the dozens of technical issues covered in these cases, the fact that mariners frequently are called upon by their employers to violate the law is extremely important and extremely dangerous.

The Coast Guard has its own Administrative Law system in place to deal with mariners who “break the law.” Unfortunately, our Association has encountered a number of cases where the Coast Guard investigators were attuned to going after the mariner rather than the employer.”

A maritime employer is a much easier target than a corporation because the mariner has his credentials at risk. Suspending or revoking a mariner’s credential effectively deprives him or her of the ability to make a living. In fact, protecting a mariner’s credential is so important that our Association recommends that licensed officers obtain license insurance.

The Coast Guard issued this warning to mariners who break the law:

“The oath does not allow a mariner to ignore the laws of the United States because of a belief that the company may “retaliate.” The Master has complete control of the vessel and the duty to ensure the safety of the vessel and its crew. The Coast Guard cannot absolve the Master’s responsibility and duty to follow U.S. law because the Master “believes” the company’s policy directs them otherwise. Similarly, the company has a responsibility to
abide by the laws of the United States.

“Further, it is a reasonable expectation for a prudent Master to immediately inform his employer of a crew change evolution or travel issue that would directly violate watch or work-hour limitations. (2) We agree that honest mistakes do occur; that’s why we’ve maintained that each violation case will be evaluated and processed upon its own merits. **However, we are not willing to concede blanket absolution to mariners in every case when they allege that they were forced or coerced to violate the law by the company.** We will investigate relevant facts, such as whether or not the mariner brought the issue to the attention of the company, prior to initiating a case against the mariner and/or company.” [1]Letter dated Feb. 18, 2003 by Chief, Eighth Coast Guard Marine Safety Division. [2]Emphasis is ours!

Mariners Questioned the Existing “Whistleblower Protection” Statute

Our Association and its predecessors questioned the protection afforded licensed mariners who reported safety violations. These questions eventually led Congress to clarify its position in regard to whistleblower protection at 46 U.S. Code §2114 in 2010 (as described above) by recognizing the fact that these questions involved “labor issues” and, in the future, should be decided by the U.S. Department of Labor using the same set of regulations that govern transport workers in other modes of transport. These regulations refer mariners via DOT regulations to procedures followed by the U.S. Department of Labor in resolving labor disputes. Since this is a very recent change, we must reserve judgment on its effect upon our mariners as we will report on the progress of individual cases as we hear about them from our mariners and their attorneys.

Nevertheless, we maintain that there are serious "gaps" in job protection for mariners who want to do the right thing and run a safe ship that complies with statutory and regulatory requirements. Our Association’s efforts continue to seek to bridge these gaps.

Our Association Reported Many Work-Hour Violations

As previously mentioned, our Association published a landmark compilation of 58 mariner letters documenting the widespread violation of the safety statutes and regulations that limit licensed mariners to a workday of 12 hours. These letters and summaries appear in NMA Report #R-201 also known as the “Yellow Book.”

Our mariners and staff spent a great deal of time compiling and preparing this information from interviews with and letters from limited tonnage mariners in the inland towing and offshore oil sectors of the industry. We continue to do so!

We distributed our report widely and asked the Coast Guard to take direct action and investigate our allegations that many credentialed limited tonnage mariners were forced to work an illegal number of hours often under harsh conditions that led to fatigue and to accidents.

Instead of taking direct action, the Marine Safety Directorate turned the matter over to the NOSAC, one of its federal advisory committees that, in turn, appointed a “Prevention Through People” (PTP) Subcommittee. This was particularly ironic since one of the PTP principles is “Honor the Mariner” – and our mariners certainly were not “honored” or even respected by members of this advisory committee. Its PTP sub-committee diddled and dawdled for eighteen months and finally realized that it had no resources to investigate our allegations. Although the Chief of Marine Safety publically promised resolve the issue, he and his staff failed to do so.

Captain Brown’s Letter

In a letter dated Dec. 4, 2002 Captain M.W. Brown on the Admiral’s staff wrote: “Due to the age of the reports (1) and lack of attribution, we were unable to resolve any of the allegations. The Coast Guard is interested in pursuing violations. However, we need timely, complete, and credible information to do so…”

[NMA Comment: “Lack of attribution” was not a valid excuse because our Association must protect our mariners’ identity as long as industry “black-listing” practices continue. We were willing to provide contact information to any bona fide investigator who maintained the confidentiality required by law. (1) Our allegations were “fresh” and mariners were readily available when we submitted the report to RADM Pluta in May 2000.] [2]46 U.S. Code §3315(b).]

However, the Marine Safety Directorate in this one brief letter effectively washed its hands of all past abuses of the 12-hour rules without undertaking a single investigation. Our Association’s confidence in the Coast Guard’s willingness to confront and solve real mariner issues as well as our confidence in their advisory committees died with that letter! Our
Association then contacted the staff of the House Coast Guard and Maritime Transportation Subcommittee and the DHS Inspector General’s Office about the shortcomings of its investigations program as was subsequently revealed in DHS OIG report #OIG-08-51\(^1\) and in two previous government reports extending as far back as 1994.\(^2\) \[^{1}\text{Reprinted as NMA Report #R-429-M.}^{2}\text{Refer to NMA Reports #R-429-A, Rev. 1 & R-429-B, Rev. 1.}^{2}\]

The Coast Guard at its highest level continues to prove through its actions that it has both the **power and the arrogance** to totally and completely ignore any complaint lodged by limited-tonnage mariners or by our Association as well. After sacking or transferring key DHS auditors with a merchant marine background and practical knowledge of Coast Guard procedures, the DHS and USCG refusal to effectively enforce laws and regulations discourages mariners from entering and remaining in the marine industry and highlights the need to remove supervision of the civilian merchant marine from military domination by the Coast Guard. Abusing its mariners by abusing hours-of-service statutes is a stain on this industry the Coast Guard refuses to acknowledge – most likely because of its incestuous relationship with corporate abusers.

**Our Association Encourages Mariners to Report Flagrant Work-Hour Abuses**

In spite of the Coast Guard’s apparent lack of interest in investigating hours-of-service and other safety violations, we continue to ask our mariners to document these abuses. One such case first reported in August 2002 contains a work-hour abuse pattern similar to the pattern that preceded the Webbers Falls bridge allision described in Chapter 13 of this report. One of our mariners placed his license on the line for even reporting the occurrence to Coast Guard officials.

“Falling asleep at the wheel” (or “behind the sticks” to use western rivers terminology) is much more than an occasional isolated occurrence. Our Mariner #179\(^1\) reported this incident to his employer, to the Coast Guard, and to our Association soon after it happened. His employer could have corrected the situation but ignored the report. Our Association notified a number of officials immediately by fax. \[^{1}\text{The name was redacted but is available to investigators.}^{1}\]

Dear [Name],

I just returned from working a long hitch on towboats owned and operated by [Company & Address]. During this time I **was required to violate several safety statutes that I reported to you in person earlier today in order to safeguard my license**. This is what happened in chronological order.

I had no choice but to violate the “12-hour rules” last August as described below. I had to violate the rules because I was hired as a trip pilot and had legitimate concerns for my job security and personal safety because I was a thousand miles from home. I realize quite clearly the dangers of working long hours as well as driving in vehicles whose drivers also drive long distances without sleep. With only two licensed persons on the boat, there was nobody else on board the vessel that could legally fill in for me without violating the 12-hour rules themselves. However, the fact is that I had only 6 hours of sleep in 50 hours.

I became painfully aware of how unsafe this practice is as it was all I could do to keep from falling asleep. Others faced with similar circumstances and conditions have not been as fortunate.

On Sunday Aug. 4, 2002 at 0300 I awoke, at my home, in [Louisiana] and departed with my wife for Louis Armstrong Airport, Kenner, LA, in my car for work. At 0700, I arrived early at the airport for a flight to St. Louis via Houston (Hobby Airport). At 1130, I arrived at the airport in St. Louis and was met by Alton Limousine Service and delivered to the Economy Boat Store at Wood River, IL where I sat until 1700. At 1700, I left Wood River, IL, in a crew van owned by Rushing Transport of Paducah, KY. The van was already filled with boat crewmembers for the M/V Mary Lynn, another vessel operated by [the same Company]. All the seats in the van were taken and almost everyone in the van was smoking. There was no opportunity to lie down, relax, or sleep in the van for any portion of the trip. The trip was very uncomfortable.

On Sunday at 2330, I arrived at Mile 501 Upper Mississippi River (UMR), and boarded M/V Gregory David operated by [Company]. The remainder of the crew continued in the van for a distance of about 300 miles to the M/V Mary Lynn in the St. Paul, MN, area. At 2335, immediately upon arrival, I went on watch on the M/V Gregory David. However, I was not required to move the boat. The boat was backed up and I was holding the tow with the port engine was running astern, while I maintained an active watch in the pilothouse.

On Monday Aug. 5, 2002 at 0500, I was relieved and had an opportunity to lie down and slept until 1100, at which time I again assumed the watch. The vessel was on standby at Mile 501, UMR. At 1345, the M/V Kevin Michael assisted by shoving the M/V Gregory David’s tow to mile 512, UMR. I remained on duty until 1715 when I went off watch at Mile 512, UMR.
Forty-five minutes after coming off watch, I was transferred to M/V Mary Lynn located almost 300 miles away in the St. Paul area. I left the M/V Gregory David at 1800 and was driven in a crew van and delivered to the M/V Mary Lynn. I was unable to sleep en route. On Tuesday Aug. 6, 2002 at 0030, I arrived at Lock 3, Mile 797.5 UMR where I boarded the M/V Mary Lynn and promptly went on watch at 0100. At 0115, I pulled out of Lock 3 pushing 12 loads. However, at 0200 at Mile 796, UMR, I stopped the boat because I was simply too tired to go any further. At that time I made notes in vessel logbook stating: “Note: Pilot [name] has had 6 hours of sleep in the last 46 hours due to travel to M/V Gregory David then to M/V Mary Lynn.” At that time, I faxed a copy of the vessel’s log page to my office and never heard a word about this entry. I backed in, stopped the boat, but remained on watch in the pilothouse until I was relieved at 0530. I stopped the boat because I was not coherent, could not think, and was punch-drunk and acting like a zombie.

The crew that I found on the M/V Mary Lynn was the same crew I rode with in the van from Wood River, IL, on Sunday. They drove straight through and arrived at 0530 Monday morning and were expected to go to work immediately. Some crewmembers had driven through from Paducah, KY, and may have driven as long as 14 hours more than I did just to reach the boat. I believe that the van driver may also have driven continuously from Paducah to the St. Paul area and question the safety of driving such a distance without a break.(1) [Refer to NMA Report #R-398.]

Coast Guard Policy Letter G-MOC #4-00 calls time in transit “neutral time” without defining that term. I was forced to violate 46 U.S. Code §8104(a) because I was not off duty for at least 6 hours within the 12 hours immediately before the time I had to go on duty. This happened on two occasions on two separate boats owned by the same company within two days. Under the [Coast Guard] policy letter time traveling to both job sites is considered “neutral time.” The policy letter never defines “neutral time.” I believe the policy letter is flawed in that travel time should be counted as “on duty” time for purposes of safely assuming the watch. My employer orchestrated every bit of my travel to serve his business purposes.

I hope that this report will help to clarify what licensed and unlicensed mariners must undergo simply to hold our jobs. As I see it, the only workable alternative I can see is to have a third licensed and qualified pilot on board a towing vessel in 24-hour service.”

s/Mariner #179

[NMA Comment: We request that Congress require that all inspected vessels in 24-hour service be manned by three (3) fully qualified, credentialed officers regardless of the length of the voyage. We reiterate that the 12-Hour Rule be amended to apply to every crewmember, not just to officers.]

Our Advice to Mariners on the Current Status of Whistleblower Protection

• You must first report potential violations of the law to your employer and allow him a reasonable opportunity to make necessary changes. If you are fired for “blowing the whistle” after your employer fails to act, 46 U.S. Code §2114 now directs you away from the Coast Guard toward the U.S. Department of Labor (DOL). Do not expect any immediate action since DOL fact-finding must take place to assure fairness to both parties involved. However, at least expect to be treated, as any other transportation worker would be under similar circumstances.

• If you break the law, the Coast Guard will not absolve or forgive you. If you break the law, you stand a good chance of losing your credential under the Coast Guard’s Administrative Law System. This can be more financially devastating than losing your job because you may not be able to continue to work on the water. Also, understand that the process of suspension and revocation (S&R) that you face after breaking a law is not friendly to our mariners.

• Greed affects everyone – young and old, rich and poor! Your boss may try to squeeze as much work from you as you are willing to give. However, if that exceeds 12 hours in any 24-hour period for an officer it is illegal – both for him to demand it and for you to give it.

• If you are an officer and accept extra pay for working more than 12 hours in any 24-hour period in any capacity you are breaking the law. To quote a senior Coast Guard official: “The purpose of the work-hour limitation statute is to prevent fatigue related accidents and promote the safe navigation of tugboats. Section 8104(h) states “an individual licensed to operate a towing vessel must not work for more than 12 hours in a consecutive 24-hour period except in an emergency.” In Sept. 2000, the Coast Guard Office of Compliance (G-
MOC) released policy letter 04-00 that clarified work-hour limitations. The policy letter defined work as “any activity that is performed on behalf of a vessel, its crew, its cargo, or the vessel’s owner or operator. This includes standing watches, performing maintenance on the vessel or its appliances, unloading cargo, or performing administrative tasks, whether underway or at the dock.” It is clear from this definition that an officer cannot perform miscellaneous tasks beyond his 12-hour workday, even if it is voluntary. Consequently…transfer operations of petroleum cargo would fall under the definition of work. Specific concerns about violations of the work-hour limitations statute or regulations should be reported to the appropriate Marine Safety Office for review and/or investigation. [Letter from Chief, 8CGD Marine Safety Division to our Association dated Nov. 7, 2002.]

A licensed engineer was sickened and totally disabled in the course of voluntarily working long overtime hours on a decrepit inspected offshore supply vessel even though the vessel’s Certificate of Inspection offered him no competent, qualified assistant. The vessel’s machinery including its sanitary system that frequently flooded the bilge was in deplorable condition. Yet, the engineer was the only person assigned to the engineroom during a time when over 30 divers and construction workers were assigned to work from the vessel and use its facilities. The engineer was on 24-hour call in a so-called “automated” engineroom. In the absence of Master posting a watch schedule and the company providing any trained or qualified assistant, a former Coast Guard officer serving as a company expert witness on Coast Guard regulations stated that the engineer was ultimately responsible for ensuring he received sufficient rest. In the absence of a record of the number of hours he worked each day, the federal district court ruled (and was upheld on appeal) that the engineer was totally responsible for his illness by negligently remaining on call for 24 hours a day. Sadly, two Federal courts accepted that argument. [Manderson v. Chet Morrison Contractors, Inc., Fifth Circuit Court of Appeals #10-31063.]

The matter of unlimited work hours is a major issue facing mariners who work without the protection of a contract achieved through the collective bargaining process. Unfortunately, the 12-hour rule does not apply to unlicensed mariners. The Coast Guard has no statutory authority to promulgate a regulation limiting work hours for unlicensed personnel – and they apparently have no intention of asking Congress for such authority. Consequently, our Association presented this matter directly to Congress. [Refer to our Report #R-350, Rev.6, Issues “H”, “K”, & “I” as well as Docket #USCG-2002-13594]

When you violate the law, you become part of the problem and not the solution.

You can report violations to the Coast Guard using your name and expect them not to reveal your identity under penalty of the law as long as you ask them not to do so. However, be aware that certain investigations cannot proceed unless you allow them to use your name. [Refer to 46 U.S. Code §3315(b)]

Work-hour abuses are one of the most important violations of the law reported by our mariners. Unfortunately, be aware that the Coast Guard seldom takes positive steps to end these widespread abuses and, instead, ignores them. If Coast Guard officers can see nothing wrong with routinely overworking their own search and rescue personnel as Congress discovered, they cannot recognize our licensed mariners’ dilemma in trying to deal with abuses above and beyond an 84-hour work week. Unfortunately, the entire culture of the Coast Guard officer corps needs to change in regard to their treatment of our limited-tonnage mariners. [Refer to our Report #R-305.]

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Case #4: Winkler vs Coastal Towing, LLC

State Whistleblower Protection Law in Louisiana: The Winkler Case

Some states adopt whistleblower protections that may or may not apply to mariners working in their waters. One mariner, Captain Thomas Winkler, had experience with a state law in Louisiana with consequences he reported to our mariners in 2002. The state law differs markedly from the federal statute as the following article discusses:

Captain Tom Winkler. It is a fact of life for most limited tonnage mariners that the 12-hour rule will be violated routinely by many employers. This was the case with Captain Thomas H. Winkler, a tug captain with many years of both inland and offshore experience.

Tom was employed as a tugboat captain aboard a vessel belonging to Coastal Towing, LLC, until Coastal laid
him off on or about Mar. 30, 2000 after he refused to violate a federal statute(1) and associated Coast Guard safety regulations(2) that limited the maximum hours he and his co-employee could work aboard the vessel in a 24-hour period. [(1) 46 U.S. Code §8104(b) . (2) 46 CFR §§15.705 and 15.710.]

The straw that broke the camel's back occurred during the night and morning of Mar. 29-30, 2000 after Tom already worked more than 20 hours. Specifically, he refused an order from Coastal's customer to push a barge back to the rig in Lake Hermitage, La. His refusal to carry out these instructions was based on safety considerations. He was able to document that he was not sufficiently rested to get underway. Nevertheless, after he refused, and every two hours thereafter, he was awakened, harassed and told to get underway. Finally, after the rig threatened his employer with pulling the boat off the job, Tom was relieved of his duties and told to take a month off. This was unacceptable.

**The Morgan City Marine Safety Office did nothing.** Tom tried his best to do his job, to satisfy his boss, and to work safely as reflected in a detailed statement of the incident. Now, after losing his job for refusing to work beyond the legal limit, and after reporting the problem to the Coast Guard Marine Safety Office in Morgan City to no avail, he sought redress of his grievance in a letter to Congressman Billy Tauzin. This letter was plain, well-written and to the point.

**Congressman Tauzin Contacted the 8th District Coast Guard.** On Apr. 20, 2000, Representative Tauzin wrote to the Eighth District Commander, Rear Admiral Paul Pluta, asking about violations of the 12-hour rule and how often they occurred. It is both reasonable and necessary to gather factual information to give an intelligent answer to as detailed and specific a letter as Tom wrote.

On May 11, 2000, Admiral Pluta wrote to Congressman Tauzin in part: "Recently, my staff conducted an informal phone survey of a cross section of Eighth Coast Guard District Marine Safety Offices to get a feel for the volume of 12-hour rule complaints we receive. This survey indicated that (we) have received very few complaints involving mariners being forced to work more than 12 hours. However, when we receive such a complaint, it is aggressively investigated and appropriate action taken...." After reading these words, Tom Winkler felt the same frustration many other mariners feel when dealing with a system that is stacked against them.

**State "Whistleblower" Lawsuit Filed.** At this point, in an independent action, Tom contacted an attorney and filed suit against his employer in the 17th Judicial District (Lafourche Parish), Louisiana under a recently-enacted Louisiana whistleblower protection law since there was no effective federal whistleblower law that protected him. In Lafourche Parish, where some employers are in the habit of treating mariners as "boat trash" and where a yellow line of antionium signs defaced communities along Bayou Lafourche for 70 miles for several years, Tom's lawsuit appeared dead on arrival and, in fact, was subsequently dismissed. When Tom threatened to "appeal" his case, even his friends were openly skeptical that he could find justice anywhere in Louisiana. For months, Tom's protests were little more than a babble of forlorn hope. Nevertheless, Tom's attorney and our Association’s Directors believed the case had merit and devoted considerable time, energy and talent to perfect the appeal.

Months and months of legal delays took their toll on Tom's health. Simply watching his health deteriorate as he moved from job to job was heartbreaking. The psychological toll was significant as his normally ebullient spirits slipped into depression.

**The Winkler Appeal.** On Apr. 31, 2001, Tom's attorney filed a reply brief on his behalf appealing the judgment rendered by the 17th Judicial District Court. On appeal, the facts of the case would no longer be an issue. It would be a matter of which law applied to the case – state law or federal law. The law in question was the state whistleblower statute.

The question then became whether federal law or state law governed in this case. Unfortunately, federal statutes and their interpretations by the federal judiciary did not offer either realistic or suitable protections. However, the state whistleblower statute did offer such protections.

Judgment was rendered on Apr. 11, 2002 in a 12-page decision whose conclusion is stated below:

"In conclusion, we find that federal maritime law does not preempt La. R.S. 23:967 in a case involving a Louisiana plaintiff, a Louisiana defendant, and facts that occurred solely in Louisiana. The application of La. R.S. 23:967 will not conflict with either specific federal maritime law or with the characteristic features of maritime law, nor would the application of La. R.S. 23:967 in this purely interstate dispute interfere with the uniformity of federal maritime law in its interstate or international relations.

"Therefore, for the foregoing reasons, the trial court judgment which granted the exception of no cause of action is REVERSED, and the case is REMANDED for further proceedings. Costs of this appeal are assessed against Coastal Towing."

Tom's case proved that Louisiana law does protect Louisiana mariners working on Louisiana waters on boats owned by Louisiana companies. It was our hope that the "plantation mentality" that allows local boat owners to
drive employees until they drop in violation of the law would be dead and buried when the word gets out! Unfortunately, this has not been the case.

The Case for “Deadhead Transportation”

As discussed in a later chapter, the NTSB reported that the Captain of the M/V Robert Y. Love, the towboat that took down the Interstate 40 bridge at Webbers Falls, OK, on May 28, 2008 had only about 10 hours of sleep in the two days before the accident.” This is comparable to the report several months later from our Mariner #179 (above) reporting only 6 hours of sleep in 50 hours that illustrates that hours-of-service violations are commonplace but can have serious consequences.

Several NMA mariners looking into the accident confirmed the story that the captain spent a significant portion of the two days preceding the accident in traveling more than 1,000 miles by car between two job assignments for the same company. One month before this deadly accident, our Association petitioned the Coast Guard to revise its definitive policy letter #G-MOC 4-00, Change 1 that explains the agency’s policy on work-hours and interprets law and regulations. We were concerned that this policy letter treated travel time as “neutral time” as follows:

"Travel time to a vessel is considered to be neutral time as it is normally not considered to be "rest", "off-duty", or "work" time, but all relevant circumstances should be considered in evaluating whether a mariner complies with the applicable "rest" required by STCW or "off-duty" requirements specified in 46 U.S. Code §8104(a)."

Our Association noted that "neutral time" is not defined in the policy letter. This leaves the mariner and his employer with the possibility of a “misunderstanding” as to evaluating whether a mariner is expected to go on watch immediately upon arriving at the vessel or to wait until he receives the required rest. Lacking a clear Coast Guard policy statement, the mariner may feel justified in delaying departure until he is rested and, as a result, be fired or forced by the threat of being fired into committing an unsafe act. This in turn could lead to a fatigue-related accident, suspension or revocation of the mariner’s license, and/or lawsuits and liability depending upon the nature and extent of the damage resulting from fatigued operation. [1]As long as the Coast Guard treats “being fired” as a “labor dispute” the safety aspects of the issue never will be resolved!]

Our mariners reported many "horror stories" of being forced to drive (or being driven) for hours and then having to take over a watch immediately upon arrival at the vessel. We reported these incidents to the Coast Guard when we learned of them.

The Federal Railroad Administration (FRA) regulations at 49 CFR §228.7(a)(4) consider "on-duty" time to include "Time spent in deadhead transportation en route to a duty assignment." This is a clear, unequivocal statement. It is followed by this statement: "Time spent in deadhead transportation by an employee returning from duty to his point of final release may not be counted in computing time off duty or time on duty." We note that this "deadhead transportation" takes place mostly on land both for railway employees and for their mariner counterparts.

We noted that this FRA passage has the status of a Federal Regulation while G-MOC #4-00, Change 1 is only a "policy letter". Consequently, under provisions of 33 CFR 1.05-20, our Association formally filed a Petition for Rulemaking and asked the Coast Guard to adopt the wording in the FRA regulation at 49 CFR §228.7(a)(4) for the protection and welfare of our mariners. The Coast Guard assigned our request Docket #USCG-2002-13594[1] which we now equate with filing in an electronic wastebasket. They never followed through on our request. In hindsight, the occurrence of the Webbers Falls bridge allision that occurred a month later was predictable considering the prevalence of work-hour abuses faced by towing vessel officers. [1]Refer to www.regulations.gov]

The Coast Guard accident investigation showed that their accident investigation team considered travel time to the vessel to be “on-duty” time. We learned that the master of the vessel was paid while driving a company vehicle to work during the period before the accident. The significance of this fact was not lost on the Coast Guard investigators who “…after consideration of all relevant circumstances” were convinced that this extended drive between two job assignments was, in effect, “on-duty” time and constituted a violation of law. The towing company challenged this assertion along with the small monetary penalties assigned to both the Master and the company individually.

While our Association commended the Coast Guard for finally publishing Policy Letter #G-MOC 04-00 in 2000 to clarify the watchkeeping and work-hour limitations on towing vessels, the “neutral time” reference and other items clearly need revision. The Coast Guard bucked the problem of “deadhead time” to the Towing Safety Advisory Committee (TSAC) where, because the committee was dominated by towing vessel owners and their trade association, the matter was tabled.
Our Association contacted both the NTSB and members of Congress on this issue and urged them to strengthen whistleblower protection and to protect the health and safety of our mariners from further hours-of-service abuses.
Congressional Intent for Towing Vessel Inspection

What, exactly, did Congress have in mind in regard to “manning” regulations as well as overseeing the towing vessel regulatory proposals? The only member of Congress to specifically and publicly address the original towing inspection rulemaking docket was Rep. James Oberstar, then the Ranking Democratic Member of the House Transportation and Infrastructure Committee and later its Chairman. Congressman Oberstar provided the final letter addressed to Coast Guard Commandant Admiral Thomas Collins on the closing day for comments to the regulatory docket. Considering his position first as Ranking Member and later as Chairman of this major committee in the U.S House of Representatives as well as his keen interest in all transportation issues, we believe his comments are critical to explaining and understanding the goals his committee sought to achieve in this important rulemaking. His letter directly responded to the seven questions posed by the Coast Guard in the docket. [Docket #2004-19977-0129.]

The Oberstar Letter [Emphasis is ours!]
March 23, 2005

Re: Docket #USCG-2004-19977–(0129)
Admiral Thomas H. Collins Commandant
United States Coast Guard
2100 Second Street, S.E.
Washington, D.C. 20593-0001

Dear Admiral Collins:

Section 415 of the Coast Guard and Maritime Transportation Act of 2004 (P.L. 108-293) brought towing vessels under the vessel inspection laws administered by the Coast Guard. As the Ranking Member of the Committee on Transportation and Infrastructure, which authored that legislation, I applaud the Coast Guard in moving so quickly to initiate this rulemaking. To understand the inspection of towing vessels and how it must be implemented it is appropriate to briefly review of the history of vessel inspection by the Coast Guard and its predecessor organizations.

On July 7, 1838, Congress approved the first law providing for the inspection of vessels – in this case steam vessels. This law required hulls to be inspected every 12 months and boilers to be inspected every 6 months. The inspectors were to be appointed by the U.S. District Courts on application by the vessel owners. This system failed to improve the safety on vessels to an acceptable level. Therefore, on August 30, 1852, Congress approved the Steamboat Act that provided the basis for establishing the Steamboat Inspection Service, the predecessor to today's United States Coast Guard. Over the years, Congress required other types of vessels to be inspected and required other vessel systems to be inspected. In 1871, Congress required the Steamboat Inspection Service to set the number of crewmembers in the ship's complement necessary for the safe operation of the inspected vessel.

The Federal Government has been inspecting vessels for over 150 years. Nothing in the Coast Guard and Maritime Transportation Act of 2004 (P.L. 108-293) changed those items that are subject to inspection by the Coast Guard. It simply added “towing vessels” as a new class of vessels that are required to be inspected. Congress supplemented the traditional inspection system by allowing the Coast Guard to develop a "safety management system" for towing vessels. As the Conference Report on this law stated:

"Safety management systems allow the Coast Guard to oversee the maintenance and repair of vessel equipment and ship systems subject to inspection through an approved safety management plan that includes maintenance schedules and system tests. The Coast Guard may enforce the plan through audits of the vessel's logs and vessel operator's records rather than having to directly oversee the repair or maintenance work conducted on a particular piece of equipment or ship system."

I understand that in public meetings some individuals have indicated that safety management could be used to fulfill the requirements for inspection of vessels by Coast Guard personnel. However, chapter 33 of title 46, United States Code and historical precedent regarding the implementation of the vessel inspection laws for all other types of vessels require vessels to be physically inspected by Coast Guard personnel. Safety management will
**supplement the inspection of towing vessels** by the Coast Guard personnel to help ensure that the vessel is maintained in compliance with the inspection requirements in between Coast Guard inspections. **Congress did not intend for safety management to be the basis for an inspection mechanism for towing vessels.**

Since 1992, towing vessels have been involved in more than 607 sinkings, 593 floodings, 494 fires, 115 capsizings, 41 explosions, and 103 abandonments. I believe that these numbers can be significantly reduced by having these vessels inspected by Coast Guard personnel pursuant to the vessel inspection laws **and manned in conformance with the manning and licensing requirements under section 8101 of title 46, United States Code.**

[Responding to USCG] Questions:

**(Q-1)** Towing- vessels of a certain size (300 or more gross register tons) are already inspected vessels and are subject to a variety of existing requirements. Should the Coast Guard use any of these existing standards (or standards for other types of inspected vessels for incorporation into the new regulations regarding the inspection of towing vessels? If so, which regulations or standards should be incorporated into these new regulations?

The American Bureau of Shipping (ABS) has current standards for the classing of towing vessels. These standards could be adopted insofar as they address portions of a vessel that are within the scope of a Coast Guard inspection under sections 3305 (scope and standards of inspection) and 3306 (regulations) of title 46, United States Code. These standards are widely known by the shipbuilding and ship repair industry and would make it much easier for the Coast Guard to inspect towing vessels. The Coast Guard should establish supplementary standards for those items that do not fall within the scope of current ABS standards, such as for lifesaving equipment, crew accommodations, potable water, and training and drills for use of lifesaving and firefighting equipment.

Inspection standards provide engineering level detail regarding the design and construction for all vessels, including towing vessels. The Coast Guard should draw on its vast experience in setting safety standards for vessels when establishing the inspection standards for towing vessels. For example, the Coast Guard will need to decide whether or not it is good marine practice for the cooling water system on a towing vessel to be made out of plastic pipe. Conversely, the Coast Guard must examine the unique characteristics of towing vessels when setting these engineering standards. For example, is the bridge high enough for bridge personnel to see over all of the barges being pushed and does the towing vessel have sufficient horsepower to safely navigate the number, size, and draft of barges that it will be pushing. If not, then **operational restrictions** may need to be placed in the certificate of inspection for the vessel.

**(Q-2)** Title 46, United States Code, specifies the items covered with regard to inspected vessels including lifesaving, firefighting, hull, propulsion equipment, machinery and vessel equipment. However, the legislation that added towing vessels to the list of inspected vessels, authorized that the Coast Guard may prescribe different standards for towing vessels than for other types of inspected vessels. What, if any, different standards should be considered with regard to inspected towing vessel requirements from other inspected vessels?

Section 3305 of title 46, United States Code, is very specific with regard to the scope of a vessel inspection by Coast Guard personnel. This section states:

"(a) The inspection process **shall** ensure that a vessel subject to inspection –

(1) is of a structure suitable for the service in which it is to be employed;
(2) is equipped with proper appliances for lifesaving, fire prevention, and firefighting;
(3) has suitable accommodations for the crew, sailing school instructors, and sailing school students, and for passengers on the vessel if authorized to carry passengers;
(4) has an adequate supply of potable water for drinking and washing by passengers and crew;
(5) is in a condition to be operated with safety to life and property; and
(6) complies with applicable marine safety laws and regulations."

In addition, section 3306 of title 46, United States Code, is very specific regarding the areas that Coast Guard inspection regulations must cover. This section states:

"(a) To carry out this part and to secure the safety of individuals and property on board vessels subject to inspection, the Secretary **shall** prescribe necessary regulations to ensure the proper execution of, and to carry out, this part in the most effective manner for -

(1) the design, construction, alteration, repair, and operation of those vessels, including superstructures, hulls, fittings, equipment, appliances, propulsion machinery, auxiliary machinery, boilers, unfired pressure vessels, piping, electric installations, and accommodations for passengers and crew, sailing school instructors, and sailing school students;
(2) lifesaving equipment and its use;
(3) firefighting equipment, its use, and precautionary measures to guard against fire;
(4) inspections and tests related to paragraphs (1), (2), and (3) of this subsection; and
(5) the use of vessel stores and other supplies of a dangerous nature."

Section 8101 of title 46, United States Code, also requires the Coast Guard to set the minimum manning levels for all inspected vessels necessary for the safe operation of the vessel. This now includes towing vessels. Section 8101 states:

"(a) The certificate of inspection issued to a vessel under part B of this subtitle shall state the complement of licensed individuals and crew (including lifeboatmen) considered by the Secretary to be necessary for safe operation."

"(g) A person may not employ an individual as, and an individual may not serve as, a master, mate, engineer, radio officer, or pilot of a vessel to which this part applies or which is subject to inspection under chapter 33 of this title if the individual is not licensed by the Secretary. A person (including an individual) violating this subsection is liable to the Government for a civil penalty of not more than $10,000. Each day of a continuing violation is a separate offense."

In addition, section 8904(c) of title 46, United States Code, states:

"(c) The Secretary may prescribe by regulation requirements for maximum hours of service (including recording and recordkeeping of that service) of individuals engaged on a towing vessel that is at least 26 feet in length measured from end to end over the deck (excluding the sheer)."

Under section 8101, the Coast Guard will have to determine whether or not, for example, there should be more than one individual on a bridge watch or more than one engineer on the vessel. In calculating manning levels the Coast Guard should take into account the number of people necessary for safe operation of towing vessels given "hours of service" limitations designed to prevent fatigue from causing marine casualties. These "hours of service" limitations will factor in the hours of continuous rest that mariners will need using circadian rhythm cycles.

The manning levels also may vary depending upon the type of towing vessel involved. The Coast Guard may decide that the manning level on an inland towing vessel does not have to be the same as for a coastal integrated tug-barge (ITB).

It may be appropriate to develop different standards for towing vessels based on their size or type of operation as long as those standards address the areas subject to inspection under sections 3305 and 3306 of title 46, United States Code in much the same way that the Coast Guard has already developed different standards for two types of small passenger vessels, so called "T" and "K" vessels. For example, different standards for the following four categories of towing vessels could be established:

1. towing vessels used exclusively on rivers and bays in conjunction with barges;
2. towing vessels used exclusively for docking or towing assistance to self-propelled vessels;
3. coastal and seagoing towing vessels; and
4. towing assistance vessels that aid recreational vessels in an emergency.

(Q-3) Towing vessels vary widely in terms of size, horsepower, areas of operation, and type of operation. Under what circumstances, if any, should a towing vessel be exempt from the requirements as an inspected vessel?

The Coast Guard has no authority to exempt a vessel from inspection under chapter 33 of title 46, United States Code. The only exemptions from inspection are those prescribed by Congress in section 3302 of title 46. None of these Congressional exemptions apply to towing vessels. However, as noted above, the Coast Guard may prescribe different standards for the various types of towing vessels so long as those regulations address the items subject to inspection under sections 3305 and 3306 of title 46, United States Code.

(Q-4) Should existing towing vessels be given time to implement requirements, be "grandfathered" altogether from them, or should this practice vary from requirement to requirement?

Section 3307 of title 46, United States Code, requires a vessel subject to inspection (including a towing vessel) to be inspected before it is put into service and at least once every five years. There may be more than 5,000 towing vessels that will now be subject to inspection and have to be drydocked in order to determine if their hulls and fittings meet the inspection standards. To accommodate the transition to full inspection, the Coast Guard may want to consider phasing in the system by using the construction date in the builders certificate issued when the towing vessel was built. The Coast Guard could require a towing vessel to be inspected before the vessel hits its
next anniversary date that is divisible by 5. For example, if the towing vessel is currently 12 years old, it would have 3 years to become inspected. This would allow for the workload to be spread out over a manageable time period and begin a cyclical process for subsequent inspections.

Regarding the grandfathering of towing vessels, the Coast Guard may want to consider exempting a towing vessel from an individual requirement if that requirement would require a major structural or major equipment change to the vessel unless that change is necessary to remove an especially hazardous condition. This approach was used when offshore supply vessels were brought under inspection. However, as stated before, no towing vessels may be exempted from inspection and the issuance of a certificate of inspection.

(Q-5) Should existing towing vessels be treated differently from towing vessels yet to be built?

See recommendations in response to question #4.

(Q-6) The same act that requires inspection of towing vessels authorizes the Coast Guard to develop a safety management system appropriate for the towing vessels. If such a system is developed, should its use be required for all inspected towing vessels?

As stated in the Conference Report for the Coast Guard and Maritime Transportation Act of 2004 (H. Rpt. 108-617) “Safety management systems allow the Coast Guard to oversee the maintenance and repair of vessel and ship systems subject to inspection through an approved management plan that includes maintenance schedules and system tests. Safety management systems will improve vessel maintenance and repairs and therefore should be required of all towing vessels. However, safety management systems are a supplement to the traditional Coast Guard inspection and are in no way a substitute for the inspection of a towing vessel by Coast Guard officials. As stated in section 3307 of title 46, United States Code, “Each vessel subject to inspection under this part shall undergo an initial inspection for certification before being put into service. After being put into service…. any other vessel shall be inspected at least once every 5 years.” Therefore, a towing vessel must be inspected by Coast Guard personnel or a classification society (if the Coast Guard chooses to delegate inspection authority under section 3316).

(Q-7) Examples of existing safety management systems include the international safety management (ISM) code and the American Waterways Operators Responsible Carrier Program. If a safety management system is used, what elements should be included in such a system?

The only components of the international safety management (ISM) code or the American Waterways Operators Responsible Carrier Program that the Coast Guard may include in the towing vessel safety management plans approved under this chapter are those elements that address the parts of a vessel subject to inspection that are detailed in sections 3305 and 3306 of title 46, United States Code, which sets out the parameters for Coast Guard regulations prescribed under chapter 33 of that title. As stated in the Conference Report to the Coast Guard and Maritime Transportation Act of 2004: “Safety management systems allow the Coast Guard to oversee the maintenance and repair of vessel equipment and ship systems subject to inspection through an approved safety management plan that includes maintenance schedules and system tests. The Coast Guard may enforce the plan through audits of the vessel's logs and vessel operator's records rather than having to directly oversee the repair or maintenance work conducted on a particular piece of equipment or ship system.”

I commend the Coast Guard for making this regulatory project a high priority and believe that it can significantly improve safety on our nation's waterways.

Sincerely,

James L. Oberstar
Ranking Democratic Member

NMA Comments on This Letter

- “Section 8101 of Title 46, United States Code, also requires the Coast Guard to set the minimum Manning levels for all inspected vessels necessary for the safe operation of the vessel. This now includes towing vessels:
  (a) The certificate of inspection issued to a vessel under part B of this subtitle shall state the complement of licensed individuals and crew (including lifeboatmen) considered by the Secretary to be necessary for safe operation.

[NMA Comment: All “lifeboatmen” require formal training.]

- “In addition, Section 8904(c) of Title 46, United States Code, states:
(c) The Secretary may prescribe by regulation requirements for maximum hours of service (including recording and recordkeeping of that service) of individuals engaged on a towing vessel that is at least 26 feet in length measured from end to end over the deck (excluding the sheer).

[NMA Comment: The wording in this statute “…individuals engaged on a towing vessel” is not limited in its application to officers. We assert that this statute clearly gives the Secretary (i.e., the Coast Guard) the authority to regulate hours of service for unlicensed persons engaged on a towing vessel. It is pathetic that after over 60 years superintending the U.S. Merchant Marine for the Coast Guard to tell us it lacked statutory authority to regulate mariners’ work-hours and thereby ignored this serious issue. Our Association urges Congress to support long-standing NTSB recommendations and direct the Coast Guard to limit the hours-of-service on all inspected vessels to 12 hours in any consecutive 24-hour period.]

- “Under section 8101, the Coast Guard will have to determine whether or not, for example, there should be more than one individual on a bridge watch or more than one engineer on the vessel. In calculating manning levels the Coast Guard should take into account the number of people necessary for safe operation of towing vessels given “hour of service” limitations designed to prevent fatigue from causing marine casualties. These “hours of service” limitations will factor in the hours of continuous rest that mariners will need using circadian rhythm cycles.”

[NMA Comment: This statement appears as strong support for a second person to serve as a “lookout” on bridge watch. It goes far beyond an “alerter” device as an alternative recently proposed in the Towing Vessel Inspection NPRM.]

[NMA Comment: This statement also recognizes the need for one or more trained “engineers” on a towing vessel. The Coast Guard allowed the towing and much of the offshore oil industry to operate without licensed engineers since 1972. While licensed engineers are only required on towing vessels over 200 GRT on near coastal and ocean routes, this statement makes it clear that Congress understands that at least one or more trained and qualified engineers are still required to maintain, operate, and possibly repair the vessel’s equipment and machinery. For 40 years, the Coast Guard has neither encouraged nor supported engineer training on any limited-tonnage vessels including those few that still require licensed engineers.]

- “…(O)r more than one engineer on the vessel.”

In the past, most towing vessels had an engineer to operate and maintain its main engine(s), generator(s), pumps, and other electrical, hydraulic, and pneumatic equipment in support of the navigation watch. Today, very few limited-tonnage vessels have even one adequately trained engineer on board. The Master often is left without knowledgeable and trained assistance caring for the vessels machinery. For example: On May 28, 1993, the towboat CHRIIS knocked down approach to the Judge Seeber Bridge in New Orleans when the Master left the pilothouse to assist a new deckhand to change fuel filters in the engine room. The Coast Guard is well aware of this problem but did nothing to bring it to the attention of Congress.

[NMA Comment: This, along with former Vice Commandant James Card’s blistering report,(1) shows the Coast Guard Marine Safety Directorate “asleep at the switch” and in bed with the industry it is supposed to regulate. Although the Coast Guard knew for years about exploited and unlicensed mariners, they never pursued the issue. The Marine Safety Directorate has done little to gain our mariners’ trust or respect. [1Reprinted as our Report #R-401-E.]
CHAPTER 7
FOCUS ON HOURS-OF-SERVICE STATUTES AND REGULATIONS THAT NEED ATTENTION

Pointing Out Problems With Certain Existing Coast Guard Regulations

Title 46, U.S. Code §8104 is the statute that applies to the establishment of watches aboard American-flag vessels. The establishment of adequate watches is the responsibility of the vessel’s Master – a task that often is difficult if not impossible when his employer does not provide sufficient human resources (i.e., officers and ratings) to call upon to accomplish the vessel’s tasks assigned by its owner or charterer including vessel operation (i.e., watchstanding), maintenance and repair.

One source of the problem is that officials in the Marine Safety Directorate promulgated a variety of regulations and policies that determine the number and composition of the crew for each inspected vessel. The resulting numbers and composition of the vessel’s crew appears on each inspected vessel’s Certificate of Inspection (COI). Unfortunately, the mariners who must serve on these vessels never have had any effective “input” on vessel manning. This means that manning levels only may be loosely connected to the vessel’s operation, maintenance, and repair. If there happen to be more crewmembers than the navigation of the vessel requires at any given moment, those “surplus” personnel are available for necessary on-board cleaning, maintenance, and repair projects. The Coast Guard officials that arrive at the vessel manning levels at Headquarters often have little if any experience serving on commercial vessels like tugs, OSVs, or small passenger vessels engaged in civilian maritime pursuits. The only input on crew size and composition that influence these officials comes from vessel owners and industry trade associations whose primary interest and hard-line lobbying is to reduce crew size and save money. While these may reflect legitimate business interests, they often eclipse concerns about crew health, safety, and welfare since limited-tonnage mariners have no effective voice through advisory committees or other means available to them when manning decisions are made. This Report is our voice and, as its readers will admit, its appearance is very much after-the-fact.

Even though “Rule 5” of the Navigation Rules states that “every vessel shall at all times maintain a proper lookout by sight and hearing,” there is no comparable “manning” requirement on a Certificate of Inspection that ensures the Master can fulfill this safe navigation requirement with a rested, trained and alert lookout. Many watch officers left man the pilothouse alone on “limited-tonnage” vessels (i.e., those of less than 1,600 GRT) clearly have too many tasks to perform on their own such as steering and maneuvering the vessel, answering radio and telephone calls, viewing radar, monitoring AIS along with plotting courses on paper or electronic charts, keeping an eye on the deck crew, responding to engine alarms etc. while crewmembers perform other necessary (or even unnecessary) functions in locations out of his sight or hearing.

The manning regulations in Title 46, Code of Federal Regulations, Part 15, interpret the laws in Title 46 of the U.S. Code and put them in administrative terms that should make them clearer and easier for Coast Guard regulators to administer and for our mariners to understand. Nevertheless, understanding the manning regulations can be tricky for many mariners. Even simple regulatory changes can bring about sweeping changes that are difficult to keep up with. Sweeping changes that affected the towing industry during the past decade, for example, were very poorly administered by the Marine Safety Directorate and left many mariners uninformed.

In addition, over the years, regulations treated “inspected” vessels such as offshore supply vessels (OSVs) and small passenger vessels differently from uninspected vessels like tugs, towboats, workboats and fishing vessels as shown by two separate subparts in 46 CFR Part 15 – namely subparts “D” and “E.”

Moving commercial vessels from “uninspected” to “inspected” status greatly affected our limited-tonnage mariners. This change began in 1958 and continues today. Most recently, in 2004 Congress added towing vessels to list of inspected vessels.

Starting with the NPRM on inspecting towing vessels introduced on Aug. 11, 2011, it will take several more years to draft the new vessel inspection regulations in 46 CFR Subchapter M and another five (5) years to actually inspect the nation’s 6,200 towing vessels. In the proposed rulemaking, the Coast Guard postponed manning issues to some nebulous future date. It will take time to re-write the “Manning Requirements” in 46 CFR Part 15 to capture the “intent” of Congress and to eliminate the wording that, for over forty years, has discriminated against towing vessel officers by ignoring the relationship between their hours-of-service and the length of the vessel’s voyage. This and additional problems will call for tough answers sooner rather than later. Our mariners respectfully call upon Congress to see that the safety, health, and welfare of our mariners finally prevail.

7-1
Problem #1: Discrimination Against Towing Vessel Officers on Long Voyages

The Coast Guard interprets (1) 46 U.S. Code §8104(h) to “…permit licensed masters or mates (pilots) serving as operators of towing vessels that are not subject to the Officers Competency Certificates Convention, 1936, to be divided into two watches regardless of the length of the voyage.” This interpretation includes most officers serving on towing vessels! [(1) This interpretation appears in 46 CFR §15.705(c).]

While inspected offshore supply vessels also operate on a two-watch system on voyages of less than 600 miles, the law(1) requires a three-watch system on voyages greater than 600 miles. However, the Coast Guard regulatory interpretation of this statute(2) clearly discriminates against the officers on towing vessels on any voyage greater than 600 miles by forcing them serve in a two-watch rather than a three-watch system. For example, the Master of a tug on a tow from the Gulf of Mexico to South Africa served with only one other officer on the vessel. The same often is true on vessels on the Lower Mississippi River for example between Cairo, IL, and New Orleans, LA – a distance of well over 600 miles. Now that towing vessels are becoming “inspected” vessels, it is time for Congress to end this discrimination by legislation since the Coast Guard has not done so by regulation. Considering the relatively slow speed of towing vessels, any vessel in 24-hour service should be manned with three licensed officers. [(1) 46 U.S. Code §8104(d). (2) 46 CFR §15.705(c)(d).]

Miles traveled has a very tenuous relationship to the real problem of hours-of-service and fatigue. In general, tons move more slowly than most other vessels. Even the 600-mile provision as written clearly favors the offshore oil industry’s trade association in the Gulf of Mexico where many voyages to and from offshore oil facilities require excessive hours on duty even though they still do not exceed 600 miles. (1) Yet, in the oil patch, this provision works against mariners who often must work unconscionable hours by making frequent short runs back and forth to port, followed by frequent in-port moves with the entire crew called out on deck handling lines, cargo hoses etc., hour after hour. Standing by offshore in all sorts of weather without adequate rest is difficult and stressful for short-handed vessels. (2) The two watch system with only two licensed officers to share the duties, whether on a coastwise rig move on a vessel under 200 GRT “not covered by the Officers Competency Certificate Convention – 1936” or on a river tow from New Orleans to St. Paul, St. Louis or Pittsburgh (as examples), is what the Coast Guard’s interpretation of the statute allows. In the real world with real mariners, this interpretation is often hopelessly inadequate in regard to both health and safety of our mariners. [(1) See Chapter 8 (below). (2) Refer to NMA Report #R-278, Rev. 8.]

As far as “uninterrupted sleep” is concerned, 46 CFR §15.710(a) states that: “the Master or other licensed individual can require any part of the crew to work when, in his or her judgment, they are needed for maneuvering, shifting berth, mooring, unmooring” (etc.). On many tugs, towboats, and OSVs in 24-hour service, the simple expedient of manning the vessel with a full deck crew for each watch should avoid disturbing the sleep of off-duty mariners. Yet, for many years, the Marine Safety Directorate did not follow this path in adequately manning inspected vessels and, under constant pressure from vessel operators, shows no inclination to change and give adequate consideration to the health and safety of our mariners unless directed by Congress to do so.

As towing vessels become “inspected” our Association recommends that Congress require the Coast Guard to provide adequate manning standards – something they failed to do on many OSVs whose crews spend hour after hour shifting berth while taking on supplies and are left to grab a few hours of “shut-eye” after the vessel leaves port. Similar problems exist on many towing vessels when making and breaking tow – operations that keep the entire crew (often including officers) on duty for far more than a legitimate 12-hour workday.

Problem #2: Provide Adequate Manning for the “Two-Watch” System’s 84-Hour Workweek

Congress in 46 U.S. Code §8104(h) limited the hours of service for a licensed officer on a towing vessel to 12 hours in any consecutive 24-hour period. The “twelve-hour rule” statute practically defines the existing “two-watch system.” Father Sinclair Oubre, JCL, and a member of MERPAC asks (1) “Why do we think that a watch system that probably was never really any good when it was established, can meet the human needs of (the) … modern mariner? To champion the old system as an acceptable work environment flies in the face of the research that has been collected.” [(1) Refer to Docket #USCG 2006-24412-0116.]

When employers crew those vessels contracted for 24-hour service, sometimes for weeks at a time, the result is an 84-hour workweek for the two licensed officers standing navigation watches. Keep in mind that most of these limited tonnage officers, and especially the Master of the vessel, must perform a host of additional duties besides steering the vessel from the pilothouse. These hours-of-service certainly do not compare favorably with the 40-hour week common in land-based jobs and infringe upon the 77 hours of “rest” required by STCW that went into effect on Jan. 1, 2012.
Where the two-watch system really loses its credibility is that it is seldom even minimally enforced by Coast Guard officials unless violations happen to appear in an investigation conducted in relation to a vessel casualty. Unfortunately, casualties involving personal injuries unrelated to property damage are seldom investigated. In fact, the Coast Guard seldom if ever checks vessel logbooks even on “inspected” vessels. Our Association took the lead in March 2000 by petitioning the Coast Guard for changes in logbook requirements as follows:

Resolution on Towing Vessel Logbooks

WHEREAS Title 46, Code of Federal Regulations contains these provisions establishing manning standards which apply to uninspected towing vessels: §§15.701; 15.705; 15.710; 15.720; 15.730; 15.801; 15.805; 15.810; 15.820; 15.825; 15.840; 15.850; 15.855; 15.905; 15.910; 15.915...

WHEREAS these manning standards include provisions that limit hours of operation by any licensed towing vessel officer or operator to a maximum of 12 hours in any 24 hour period...

WHEREAS 33 CFR 164.80 (inter alia) requires inspection and testing of various items of towing vessel equipment and logging the results as follows: “To ensure compliance with this rule, the Coast Guard requires a record of tests even if nothing fails. In the interest of minimizing these reports, the Coast Guard has not dictated the format of the entry and will continue to allow companies to use their established procedures.”

WHEREAS 46 CFR 27.355 requires instructions, drills, and safety orientations conducted on both new and existing towing vessel with the presumption that these events will be logged...

WHEREAS many of our members, as "employees at will," report that they have no choice but to disregard certain manning regulations in order to hold their jobs...

WHEREAS many of our members report operating in a fatigued condition...

WHEREAS Coast Guard boarding officers cannot adequately and fairly enforce statutory hours of work and rest and other manning regulations in 46 CFR Part 15 without viewing adequate logbook entries...

THEREFORE, BE IT RESOLVED THAT THE GULF COAST MARINERS ASSOCIATION petition the Coast Guard to initiate rulemaking action to require masters, mates, pilots, or operators of uninspected towing vessels to accurately and fully log the working hours of all crewmembers at the end of each watch in a suitable vessel logbook containing consecutively numbered pages and that such accumulated logbooks be kept onboard at all times to fully disclose compliance with all applicable work hour and manning regulations for the past 90 days. [(1)Refer to CGD 94-020, 61 FR 35070, July 3, 1996. (2)Under the provisions of 33 CFR 1.05-20.]

Lack of oversight on vessel recordkeeping leads to longstanding hours-of-service abuses overlooked both by management personnel as well as Marine Safety Directorate investigators. Our petition went nowhere with the Coast Guard that stated logbooks were beyond their jurisdiction. We then approached the House Coast Guard and Maritime Transportation Subcommittee staff where §607 of the Coast Guard Authorization Act of 2010 tightened logbook requirements by requiring recordkeeping in “Official Logbooks” on all inspected vessels. Unfortunately, the proposed towing vessel inspection rulemaking lacks clarity on this issue. Furthermore, not a word was mentioned about these tightened logbook requirements at a major “bridging” orientation meeting open to the public, or at TSAC meetings, or at the four scheduled public meetings that discussed the proposed new regulations. [(1)Refer to NMA Report #R-202, Rev. 5 and Chapter 13, Example #3 (below). (2)46 U.S. Code §11304 as amended.]

Problem #3: Taking Charge of a Watch Following Crew Change

46 U.S. Code §8104(a) “...permit(s) an officer to take charge of a deck watch on a vessel when leaving or immediately after leaving port only if the officer has been off duty for at least 6 hours within the 12 hours immediately before the time of leaving.” Our Association documented frequent abuse of this law even before the Webbers Falls accident knocked down the Interstate 40 Bridge, killed 14 motorists, and further illustrated this point.

Even the Coast Guard investigators determined that the Master of the towing vessel Robert Y. Love violated this law when he took charge of the vessel the day preceding the accident after driving for over 1,000 miles between assignments and not being “off-duty” for the required 6 hours before taking over the watch. Nevertheless, NTSB, TSAC, and the offending company sought to marginalize this event and attributed the accident to other causes. However, convincing evidence showed that the Master, while in transit to meet his assigned vessel in Van Buren, AR, was “on duty” and in service to the vessel since his employer paid him while he was on the road.

We urge Congress to place a high statutory penalty on violations of this nature in light of the loss of life and the cost to taxpayers estimated to be between $30,000,000 and $60,000,000 in this accident alone.
Problem#4: Needed – Hours-of-Service Limits for Unlicensed Mariners

To date, Congress established no limits on the hours-of-service of unlicensed personnel on inland towing vessels as well as for many others who work offshore. Ratings (i.e., unlicensed mariners) often are called upon to serve as “lookout” on limited-tonnage vessels under the assumption that they will be trained, qualified, and adequately rested before going on watch. However, the American Waterways Operators (AWO), the towing industry trade association, in its “Responsible Carrier Program” sees nothing wrong with allowing its member companies to work unlicensed engineers, deckhands, tankermen, cooks, etc. to work 15-hour days. Without a statutory limit, this “voluntary” limitation is absolutely meaningless. Our Association encountered a similar problem with the Offshore Marine Service Association (OMSA) on its members’ inspected offshore supply vessels. If railway workers are obliged to park their trains and change crews when their hours of service expire, in all fairness, so should our mariners.\(^{(1)}\) 49 U.S. Code §21103.

It gets worse! The “call watch” system employed on many towing vessels under 1,600 gross register tons on rivers and inland waters is even more abusive as we will describe in Chapter 11 (below).

Our Association respectfully asks Congress to limit hours of service of all mariners to 12 hours in any 24-hour period.\(^{(1)}\) We assert that this would treat the human needs of both officers and ratings fairly and equally. \(^{(1)}\) Refer to NMA Report #R-350, Rev. 6, Items H, K, and I.

Problem #5: Outdated Coast Guard Manning Regulations

Although mariners are still trying to absorb the sweeping changes in manning regulations that occurred in 2009, it is clear that several work-hour regulations are clearly out of date. For example, 46 U.S. Code §8104(d) still says “…coal passers, firemen, oilers, and water tenders shall be divided, when at sea, into at least three watches…”

Although this statute recognized the arduous work of the “black gang” in the engineroom of steam vessels, there are no steam-powered OSVs and few steam tugs today except in museums. There are few if any limited tonnage coal passers, firemen or water tenders in real life except in 46 CFR §15.705(b). However, this regulation by its mere presence, does focus attention on mariners who serve in the enginerooms and machinery spaces of modern vessels whose hours-of-service and duties have not received any attention from the Marine Safety Directorate in the last 70 years. In addition, the proposed new towing vessel regulations, for example, do not even use the word “engineer” and some replacements that are referred to as “deckineers” receive little or no formal training although expected to assist in servicing and maintaining increasingly sophisticated engineering systems.\(^{(1)}\) \(^{(1)}\) Refer to NMA Reports #R-238; #R-401, Rev. 1; #R-412; #R-412-A; #R-428, Rev. 1; #R-428-H.

Problem #6: Troublesome Tonnage Parameters for 100-ton Towing Vessels.

46 U.S. Code §8104(d) starts with the wording: “On a merchant vessel of more than 100 gross tons….”

The 100-ton benchmark established by statute many years ago to delineate between “Small Passenger Vessels” of less than 100 tons and “Passenger Vessels” greater than 100 tons produced three separate sets of Coast Guard regulations in 46 CFR Subchapters H, K, and T limited to the passenger-carrying trades.

As towing vessels approach “inspected” status, it is important to note that an earlier benchmark of 200-tons was established by Officers Competency Certificates Convention (1936) and its implementing “Act” (1939) for vessel manning. These statutes applied only to vessels on oceangoing or coastwise routes. Until 1994, almost all ocean and coastwise towing vessels were purpose-built to admeasure less than 200 gross tons to reduce their exposure to costly regulations for much larger vessels that affected both the vessel and its crew. This 200-ton benchmark never applied to towing vessels on inland waters, Great Lakes, and river routes.

However, with inspection of towing vessels just over the horizon, the 100-ton benchmark previously applied to passenger carrying vessels is out of place when it applies to towing vessels and led to many unintended consequences. For example, hundreds of mariners who were advised to obtain a standard “100-ton” license prevalent until 2001 found their access blocked to service on towing vessels of between 101 to 200-tons unless they repeated the entire licensing procedure from start to finish. This caused turmoil among our mariners for almost an entire decade and was not finally resolved by the Marine Safety Directorate until after many years of fruitless debate by TSAC.

Today, many boat owners are ordering brand new towing vessels that admeasure less than the “magic” 100-tons to take advantage of smaller crew requirements and to avoid the “three-watch” system required by the same statute.\(^{(1)}\) However, most of the physical differences above or below this arbitrary tonnage are meaningless except to naval architects and those of our mariners often forced to work longer hours with fewer crewmembers. \(^{(1)}\) 46 U.S. Code §8104(d).]
Problem #7: Obtaining a Sea Service Letter

There were many instances where mariners served on vessels whose owners later refused to furnish them with letters documenting their “sea service” for credentialing purposes. These problems persisted for the last 40 years until §605 of the Coast Guard Authorization Act of 2010\(^{(1)}\) required that all commercial vessels maintain accurate records of sea service and make them “available to the mariner and the Coast Guard upon request.” \([^{(1)}]46\ U.S. Code §7502(b)(c)\).\]

Although these changes exist in the statute, the Coast Guard was never especially helpful to mariners who need help obtaining sea service letters from their employers, past or present. The Coast Guard published virtually nothing about these statutory changes so some employers still continue to short-change their employees and especially former employees. Our Association contacted a number of employers reluctant to write sea service letters for former employees by citing the statute when necessary. We assert that this should be the Coast Guard’s job as part of assisting mariners who pay their fees and seek help with their credentials. A little government assistance in informing recalcitrant employers would go a long way. However, for the past 40 years, the Coast Guard has never raised a finger to help our mariners with this problem. We thank Congress for their attention to our past correspondence on this subject and by amending 46 U.S. Code §7502(b)(c). We trust that the Coast Guard will attend to this matter and assist our mariners by enforcing these new provisions.

Problem #8: The Marine Safety Directorate Ignores Limited-Tonnage Mariners

For years, trade Associations like the American Waterways Operators (AWO) and the Offshore Marine Service Association (OMSA) have had their way with the Marine Safety Directorate. The Coast Guard, its various safety advisory committees, and industry management ignored the problems that limited-tonnage mariners presented to them because our mariners lacked organization and were outvoted or ignored even if they had a voice at the table. Consequently, although the Marine Safety Directorate was aware of these festering problems, they took no steps to resolve them over the years.

While experienced mariners working on vessels of less than 1,600 GRT rarely go on strike, when facing these conditions they often just choose to work at jobs in a different field or in a friendlier environment.
Although Congress repeatedly addressed questions of hours-of-service and vessel manning in the past, interpretation and enforcement of applicable statutes falls upon the U.S. Coast Guard. Our Association has strong reservations about the Marine Safety Directorate’s performance in enforcing hours of service and manning statutes and investigating casualties – especially those casualties involving personal injuries.\(^1\) \[^{1}\text{Refer to NMA Report \#R-202, Rev. 5.}\]

While the “three-watch” system prevails in the “deep-sea” merchant marine watched over by strong maritime labor unions, by contrast the “two-watch” system prevails among our limited-tonnage mariners.

On vessels that work around-the-clock on a 24-hour basis, a two-watch system for licensed officers translates into a work-week of at least 84 hours. Management often abuses the extent of these work hours by slipping in additional duties to extend these hours while Coast Guard officials turn their backs unless a vessel casualty results.

Congress never established statutory hours-of-service limits for unlicensed personnel including tankermen, deckhands, unlicensed engineers, “deckineers,” and cooks.

The Coast Guard regulates “manning” on inspected vessels by specifying the number of crewmembers assigned to a vessel on the vessel’s Certificate of Inspection although towing vessels, except for those on international voyages, are issued no comparable documents. Although the Marine Safety Directorate establishes “national policy guidelines” in Volume 3 of the Marine Safety Manual (MSM), these guidelines can be altered on a case-by-case basis by a local Officer-in-Charge Marine Inspection (OCMI) who may have no personal knowledge or experience of conditions on board any given vessel on even a given class of vessels.

Unfortunately for our limited tonnage mariners who serve on limited-tonnage vessels, the process of bringing over 6,200 towing vessels under inspection dragged on for over seven years without producing a final set of regulations; sadly, the Aug. 11, 2011 NPRM tells us that final regulations may not even ameliorate existing manning and hours-of-service regulations for towing vessels\(^1\) \[^{1}\text{76 FR 49991-49995, Aug. 11, 2011.}\]

Our Association also asserts that the Coast Guard takes the side of management by failing to investigate and vigorously enforce existing hours-of-service statutes and allows continual exploitation of our mariners that overwork, stress, and the lack of uninterrupted sleep adversely affects their safety, health, and welfare.

For years, the Coast Guard “packed” TSAC with management talent that sidetracked every hours-of-service and manning issue our Association presented to the committee. One \textit{example} dealt with the \textit{Safe Management of Crew Travel Time}\(^1\) By removing this issue from the well-established venue of TSAC\(^2\) and encouraging a joint effort with the American Waterways Operators in 2007 to define the issues, the Marine Safety Directorate effectively eliminated meaningful input from working mariners who often encounter these problems on many crew changes and put further discussion and resolution of the issue in the hands of management of the industry trade association. While some AWO member companies instituted meaningful changes, the changes were not widespread throughout the industry. \[^{1}\text{Report \#R-370-I, Rev. 1.}\] \[^{2}\text{Report \#R-370-D, Rev. 6.}\]

Since our report examines the conditions that exist throughout the fleet of several different classes of vessels operated almost exclusively by our limited-tonnage mariners, we respectfully ask Congress to establish an ongoing process that actively includes a presence of limited-tonnage working mariners in reviewing existing national manning standards that govern their professional activities. Our ongoing study of undermanning on these vessels reveals the following issues:

\textbf{Issue #1: Existing Manning Regulations Need Clarification}

Will the \textit{existing regulations} in 46 CFR Part 15, Subpart E as they affect mariners serving on \textit{uninspected} towing vessels still apply to these vessels during the proposed five-year period in which they become \textit{inspected} vessels? The \textit{proposed rules} should have indicated whether Subpart F for \textit{inspected} vessels would now apply to 6,200 towing vessels after their status becomes “inspected” – or what other changes along these lines should our mariners anticipate. Our Association was led to believe that the entire manning issue would be an integral part of the proposed rulemaking – but it was not. Consequently, the entire industry and its 32,000 officers and ratings were left without adequate guidance on important personnel issues. It is an open question as to how long this lack of leadership will prevail, as it will be years before any “Final Rule” is adopted and possibly five more years before all towing vessels are inspected.
Issue #2: Existing Manning Regulations for Towing Vessels Must be Updated

The traditional approach used in 46 CFR §15.601 that assigns the "applicability" of Manning regulations by reference to other regulatory section numbers is extremely confusing to many mariners. It must be rewritten.

Many limited-tonnage mariners lack ready access to the Code of Federal Regulations and lack the ability to correctly correlate regulations appearing in different sections with each other. The enumerated sections in §15.601 need to be expanded so that Subpart E contains full and definitive-manning regulations that do not require reference to other enumerated sections outside Subpart E. This subpart must be rewritten and clarified. At the time when the Coast Guard is ready to issue a COI to a newly-inspected towing vessel, Manning requirements should be crystal clear in their application to personnel on that vessel.

Issue #3: Entry-Level Mariners Need Training

Insufficiently trained entry-level personnel (e.g., “green” deckhands and untrained “deckineers”) are assigned to many OSVs and towing vessels as a result of high industry personnel turnover rates. These individuals are accidents waiting to happen! The towing industry in particular fails to attract and retain sufficient personnel to keep abreast of anticipated future growth.

High turnover rates and the inability to recruit new mariners are closely tied to the industry’s abuse of its limited-tonnage mariners over an extended period of time. Recruiting foreign crewmembers to work for lower wages on U.S.-flag vessels in domestic waters will not be tolerated.

Issue #4: The Coast Guard Ignored Adequate Engineer Training

While the Marine Safety Directorate sets aside slots on a vessel’s Certificate of Inspection for licensed personnel to meet existing regulatory requirements, there has been a total absence of requirements to train engineroom personnel on inspected OSVs of less than 200 GRT or on most industry towing vessels since 1972. Consequently, for many years there have been very few formal training classes or “approved courses” to prepare limited-tonnage licensed or unlicensed engineers, “deckineers,” or oilers. There is only an ill-defined career path for unlicensed limited-tonnage mariners to advance in the engineroom. The Marine Safety Directorate’s recent (2010) removal public internet access to all exam questions, answers and exam illustrations discouraged many potential deck and engine applicants from advancing in the industry. [1] Refer to our Report #R-401, Rev. 1. [2](Refer to our Report #R-428, Rev. 1. [3] Refer to NMA Report #R-428-K, Rev. 1.)

In the machinery spaces of larger vessels, there are a greater variety of systems to operate, fluids to store, pump, exchange, and eventually dispose of. Based on the past history of Manning levels in the offshore oil and towing industry, there is no assurance that knowledgeable engineering personnel will be available to serve on these vessels.

The Coast Guard’s 1982 Functional Job Analysis (FJA) report clearly showed that the OSV engineer was overworked even when engineers were “automated.” Although the Marine Safety Directorate sponsored this report, they undertook no remedial action based on it such as requiring increased industry-wide Manning requirements in the engineroom. Without even the slightest pressure by regulators to improve its shortcomings, industry did nothing to improve the situation. [1] Refer to NMA Report #R-428-C.

On any OSV, there is much more to handling either liquid mud or a large variety of increasingly specialized oilfield chemicals carried in bulk than pushing buttons or moving levers at a control station. Hoses must be un-racked, un-rolled, dragged, or carried; connections must be made in all types of weather and at any hour of day or night. The same hoses must be tended or monitored and corrections or minor repairs made as required. Tank levels must be continuously monitored; hoses must be plugged or capped, disconnected, emptied, re-rolled, tied and racked. Clogs must be freed; spills must be cleaned. Mud, cement, and chemicals vented or spilled from the rigs onto vessels below must be cleaned up. Of these, the most vexatious are “cement jobs” where vented cement particles blow downwind on vessels standing by next to a rig or platform. The damp cement particles must be washed from every surface before they dry or harden. Usually the clean up involves rousing the entire crew to cope with this predictable emergency.

Increased transfer capacities mean heavier, longer and more unwieldy hoses and heavier physical activity requiring greater manpower that can be ramped up at any time, day or night, and in all weather conditions. In addition to equipment in the engineroom, there is also deck machinery such as winches, windlasses etc. to maintain and operate on OSVs and towing vessels. All of this work must be performed in line with work-hour standards as specified in long-standing but frequently overlooked U.S. regulations, new STCW requirements, and International Labour Organization (ILO) standards for all merchant mariners.

Furthermore, the National Transportation Safety Board, in recommendation #M-99-1, asked that the Department
of Transportation(1) to "...require the modal administrations (including the Coast Guard) to modify the appropriate Code of Federal Regulations to establish scientifically based hours-of-service regulations that set limits on hours of service, provide predictable work and rest schedules, and consider circadian rhythms and human sleep requirements. Congress became involved in 2004 and again in 2010. In Dec. 2011, NTSB Chairman Deborah A.P. Hersman reiterated the agency’s call for new hours of service regulations in comments to the Towing Vessel Inspection rulemaking docket.\(^{(2)}\) [\(^{1(\text{Now applicable to DHS.})}\) \(^{2(\text{USCG-2006-24412-187.})}\]

**Issue #5: Shortcomings of On-the-Job Training to Serve as Engineer**

Traditionally, on most small commercial vessels, the Master and/or Mate work their way up through the ranks. This “on-the-job training” (OJT) is supposed to provide sufficient knowledge and hands-on experience to maintain increasingly sophisticated engineering plants. Often, however, it results in little more than the blind leading the blind in a rush to move out of the engine room to a less confining job on deck and an air-conditioned pilothouse.

If licensed deck officers are expected to maintain and often repair or adjust the engineering plant, in many cases they cannot do so without being two places at the same time and/or without violating existing work-hour statutes. We reiterate that one person **cannot be physically present in two places at the same time, namely in the pilothouse and in the engine room several decks below, or routinely perform two very different job assignments within the constraints of a 12-hour work day.** Attempting to do so has led to at least one bridge allision with fatalities as discussed later in this chapter.

**Issue #6: Engineering Statute Ignored**

46 U.S. Code §8104(e)(1)(A)(B) states in part: “On a vessel designated by subsection (d) of this section\(^{(1)}\) a seaman may not be engaged to work alternately in the deck and engine departments; or required to work in the engine department if engaged for deck department duty or required to work in the deck department if engaged for engine department duty...” [\(^{1(\text{This statute refers to a merchant vessel of more than 100 gross tons on coastwise or ocean routes.})}\]

We ask Congress to study and review this statute in depth and to consider applying it uniformly **to an expanded group of inspected vessels based upon the horsepower and complexity of its installed engineering plant rather than tonnage or route.** We then ask Congress to **mandate appropriate and meaningful engineer training** and **manning standards for engineers** aboard these vessels. Left to its own devices, considering the poor reporting of personal injuries in the industry, the Marine Safety Directorate has not viewed this as a serious safety issue. We respectfully disagree!\(^{(2)}\) [\(^{1(\text{Refer to NMA Report #R-428, Rev. 1.})}\) \(^{2(\text{Refer to Chapter 14 (below).})}\]

There is a pressing need to develop guidelines to adequately train **both licensed and unlicensed engineers** in both theoretical and in practical engine room maintenance. However, the Marine Safety Directorate has never actively encouraged **engineer training for limited-tonnage mariners** since existing statutes do not require licensed engine room personnel on OSVs of less than 200 gross tons or on towing vessels in domestic service.

Maritime unions urged Congress as early as 1972, to recognize that safety requires properly trained personnel to staff the engine room of commercial towing vessels.\(^{(1)}\) In 1980, a statute required licensed engineers on offshore supply vessels of over 200 gross tons but does not apply to vessels of less tonnage in spite of the increasingly sophisticated engineering plants installed on these vessels. [\(^{1(\text{Refer to NMA Report #R-401, Rev. 1.})}\]

Very few towing vessels used in coastwise and oilfield towing exceed 200 gross register tons although on inland waters and especially the Western Rivers some towing vessels approach 1,500 gross tons. Although our Association pointed out to the Marine Safety Directorate that the duties, work-hours, and training vessel engineers on these vessels cry out for attention, they refused to pass this message to Congress in the form of a Legislative Change Proposal.

Furthermore, the Marine Safety Directorate and industry appear to confuse the terms “**licensed**” with “**trained**” engineers. While both terms carry expensive burdens, “training” is closely and directly connected with safety and deserves immediate attention. Our Association recommends that Congress require the maritime industry to provide **formal safety training** (and accountability) for every crewmember who carries out even brief assignments in vessel machinery spaces\(^{(3)}\) and **formal vocational training** for all crewmembers assigned to regular engine room watchstanding and maintenance assignments. [\(^{1(\text{Refer to NMA Report #R-428, Rev. 1.})}\]

Both the MERPAC and TSAC have legitimate roles in identifying "best industry practices and standards" for training limited-tonnage licensed and unlicensed engineers. Unfortunately, the Coast Guard neglected this matter for forty (40) years after Congress declined to license engineers on diesel powered towing vessels in 1972.\(^{(1)}\) This issue needs to be studied anew! [\(^{1(\text{Refer to NMA Report #R-401, Rev. 1.})}\]
The Officers Competency Convention of 1936 and Act of 1938 require licensed engineers to serve on vessels over 200 gross tons in international waters. This was affirmed by Public Law 96-278 in 1980 for offshore supply vessels. Unfortunately, the Coast Guard studiously avoided recognizing the need for trained engineers to operate the engineering plant on commercial vessels of less than 200 GRT. Some of these vessels now approach 200 feet in length with very sophisticated mechanical, pneumatic, hydraulic and electrical machinery. \[\text{(1) 46 U.S. Code §8301(b)}\]

**Issue #7: Intelligent Handling of Pollutants**

Since OSVs are not classified as tank vessels, unlicensed personnel with questionable if any formal training in pumping fuel or liquid cargo routinely load, unload, and transfer petroleum, drilling fluids, and noxious liquid substances in United States waters. Some OSVs carry over 200,000 gallons of diesel fuel as well as many oilfield chemicals that can pollute the environment. The volume of these products far exceeds the 2003 Buzzard’s Bay oil spill that sent a towing vessel’s Mate to jail.

This convenient statutory loophole declares that OSVs are not tank vessels is supported aggressively by the Marine Safety Directorate and the industry trade association even though it flies in the face of the comprehensive safety requirements for Tankerman (PIC) adopted in 1995.\[\text{(1)}\] We bring this loophole and its potential significance to the attention of Congress to consider its implications for the environment. Our Association believes that tankerman training should be required wherever and whenever pumping fuel or noxious liquid substances takes place and suggest that vessel operating companies provide a one-week tankerman training course for every crewmember who plays a role in transferring environmental pollutants. \[\text{(1) Refer to regulations in 46 CFR Part 13.}\]

**Issue #8: Substandard Manning Levels for Engineers on OSVs**

We assert that the Coast Guard with industry support actually encourages undermanning by approving substandard manning levels on a substantial number of OSVs greater than 200 gross register tons.

In letters to Admiral Paul Pluta, then Eighth District Commander and later the Assistant Commandant for Marine Safety dated Jan. 16 and Feb. 11, 2001, we provided a copy of a valid Certificate of Inspection from a 185-foot OSV greater than 200 GRT showing a permissible manning level of one licensed Chief Engineer with no oiler or other engineroom assistant. Such an engineer was (and is) expected to be either on duty or on call 24 hours per day. We provided this as an example of a substandard manning practice on the part of the Coast Guard and an unfair labor practice on the part of management. Since the Coast Guard constantly reminds our Association that they do not become involved in "labor issues," this roadblock gives management a free hand to interpret hours-of-service statutes in any manner it chooses.

Our Association also published (below) a copy of the hours worked by a licensed Chief Engineer on a comparable offshore supply vessel. This is a true record of the engineer’s "hours of rest" following the Marine Safety Directorate’s definitions in G-MOC Policy Letter #4-00, Change 1, shortly after that directive was published.

The OSV engineer, among his many other tasks is responsible for pumping a variety of below-deck cargoes. The report indicates that he was grievously overworked. Yet, this is far from an isolated event in either the offshore oil or towing sectors of the marine industry, as Chapter 14 of this report will reveal some terrible consequences. Our Association brought these problems to the attention of both the Coast Guard and the U.S. Department of Labor at the highest levels.

46 U.S. Code §8104(e)(1)(A)(B) states that on a vessel of more than 100 gross tons "...a seaman may not be engaged to work alternately in the deck and engine departments; or required to work in the engine department if engaged for deck department duty or required to work in the deck department if engaged for engine department duty..." We state unequivocally that the Coast Guard often fails to enforce requirements of this statute.

Our Association is obliged to protect the interests of our mariners by pointing out that vessels in 24-hour service need an additional watchstander assigned to monitor alarms and perform periodic checks in an “automated” engineroom rather than a hybrid “deckineer,” often an untrained ordinary seaman, who is shared between the engine and deck departments. This has more to do with the state of equipment maintenance and repair than it does with the games that management often plays with the vessel’s tonnage measurement.

An engineroom watchstander needs to be fully trained because, among other things (on an OSV), he must be able to pump fuel and hazardous chemicals since an OSV’s Certificate of Inspection does not require a certificated tankerman. Allowing untrained persons to perform such environmentally sensitive tasks doesn’t make sense. Our Association protests when deck officers must risk their licenses to cover pollution errors committed by un-certificated and possibly untrained crewmembers. Protection of the environment suggests that “tankerman” training be required of mariners who must serve as
Overworking engineers is not a new problem. The Coast Guard clearly recognized this problem in the Functional Job Analysis (FJA) study their officers performed on offshore supply vessels in 1982. The Coast Guard presented the FJA report at the Workboat Show in New Orleans and the report was widely circulated, and publicized. Thereafter, the report was consigned to dusty bookshelves and conveniently forgotten.(1) In spite of the efforts and expense that went into preparing this report, little effective action ever was taken to implement its findings. Consequently, this turned out to be a waste of time and taxpayer money and of little assistance to our limited-tonnage mariners. [1] Refer to NMA Report # R-428-C.

Our Association brings this matter directly to the attention of Congress in order to protect our mariners. The Marine Safety Directorate has known of the unconscionably long hours worked by OSV engineers since the FJA report in 1982 and took no steps to ameliorate these working conditions for over thirty years. In doing so, we assert that they have been much too cozy with industry management.

Chief Engineer’s Hours-of-Service on an OSV

This memo contains information provided by Glenn L. Pigott, a licensed Chief Engineer on an offshore supply vessel and a member of our Association’s Board of Directors. Subsequently, the Secretary of Transportation appointed Mr. Pigott to membership on MERPAC where he served for many years.

During the tour of duty described below, no "oiler," "wiper" or other trained engineroom personnel was assigned to help Mr. Pigott who fully and publicly explained the situation he faced at the Merchant Marine Personnel Advisory Committee’s meeting on April 9-10, 2002.

In this report we use a "From...To" approach to cover the full 24 hours of each day. This was based on interviews, correspondence, and double-checked before publishing the original report. These hours are a general outline of the workday the engineer performed on a typical 185-foot offshore supply vessel greater than 200 GRT operating from Port Fourchon, LA, in domestic oilfield service and on voyages of less than 600 miles – both these facts being pertinent to this case.

We were concerned about how many hours on each day were available to him for "rest." Coast Guard policy letter G-MOC #4-00, Change 1, defines "Rest" as "...a period of time during which the person concerned is off duty, is not performing work...and is allowed to sleep without being interrupted." This does not state that the engineer did sleep, only that he had the opportunity to sleep if he wished or was able to do so.

In this paper Mr. Pigott recorded the number of hours of "rest" he had in each 24-hour period on each day. This figure did not have to match his schedule each day but should not directly conflict with it. We realized this report would be subjective, but these figures were reported as true "to the best of his knowledge and belief." In this, the daily schedule is only a guideline. Mr. Pigott advised us for each day whether it was possible at any time to get 6 hours of uninterrupted sleep as required by the Standards of Training, Certification and Watchkeeping (STCW). Mr. Pigott stated that he would be available to verify this report for any valid official purpose and did so before MERPAC.

**Tuesday, October 31, 2000**
0030 Left home to drive to work.
0420 Arrived at Port Fourchon. Stayed on crewboat awaiting my assigned 185-foot supply boat.
0530 Boarded a utility boat awaiting my assigned boat.
1000 Went aboard my assigned supply boat. I received no orientation. Liquid mud duties were awaiting my arrival. I was the only engineer on the boat. No other engineroom personnel were assigned.
1030 to 1630. Transferring mud returned from the rig to two tanks on the boat.
1700 to 1900. Pumping fuel, stirring mud, and transferring water.
1900 Underway back to dock. Laid down
**ESTIMATED TOTAL HOURS OF "REST": 2.**

**Wednesday, November 1, 2000**
0230 Started pumping off mud to facility at the dock.
0500 Loading fuel and water at the dock.
0800 Internal transfer of fuel to level the boat.
1000 Return to bed.
1300 to 2400. Awake and started cleaning three (3) liquid mud tanks.
**ESTIMATED TOTAL HOURS OF "REST": 4.**
Thursday, November 2, 2000
0001 to 0300. Continued cleaning three (3) liquid mud tanks.
0300 to 0700. Awake and started to pump water.
0700 to 1400. Standby while pumping continued.
1400 Finished pumping water and Calcium Bromide
1400 to 2400. Standby at Rig.

ESTIMATED TOTAL HOURS OF "REST": 8.

Friday, November 3, 2000
0001 to 0200. Standby at Rig.
0200 Hooked up to back-load mud from rig.
0330 Standby at Rig waiting for mud to be pumped from rig.
0630 Started receiving mud from rig.
0800 Pumping calcium and stirring mud every hour to prevent it from settling.
1200 Finished pumping calcium.
1300 Underway from rig to dock.
1800 Standby dock, loading and stirring mud.
1830 Laid down.
2015 Got up to stir the mud.
2400 Pumping water.

ESTIMATED TOTAL HOURS OF "REST": 3.

Saturday, November 4, 2000
0001 to 0400. Continued pumping water.
0400 to 1000. Laid down.
1000 to 2400. Arose to swap generators; standby and circulate mud hourly.

ESTIMATED TOTAL HOURS OF "REST": 6.

Sunday, November 5, 2000
0001 to 1000. Up. Started loading cement.
1200 Standby.
1300 to 1500. Working on repairs to starter on Port Main Engine.
1600 to 2400. Standby Rig, stirring mud.

ESTIMATED TOTAL HOURS OF "REST": 4.

Monday, November 6, 2000
0001 to 0830. Stirring mud until arrival at dock.
0830 At Dock.
1200 At dock. Load Barite.
1600 At Dock. Offloaded liquid mud.
1600 to 2400. Standby.

ESTIMATED TOTAL HOURS OF "REST": 6.

Tuesday, November 7, 2000
0001 to 0800. Standby at dock.
0800 to 1200. Up and underway, performing routine maintenance.
1200 to 1800.?  
2400 At rig.

ESTIMATED TOTAL HOURS OF "REST": 8 (6 HOURS OF SLEEP)

Wednesday, November 8, 2000
0001 At rig.
0300 At Dock.
0800 Underway.
0900 to 1200. At rig. Handle deck cargo.
1200 to 1800. Prepare to leave rig; leave rig; underway; arrive at dock.
1800 to 2300. Standby at Dock.
2300 to 2400. Standby to load Gel.

**ESTIMATED TOTAL HOURS OF "REST"**: 5.

**Thursday, November 9, 2000**
0001 to 0300. Standby at Dock to load Gel.
0300 to 0700. Load Gel and Standby.
0700 Underway in-port movement.
0900 At Dock.
1200 Underway.
1400 to 2400. At Rig.

**ESTIMATED TOTAL HOURS OF "REST"**: 6.

**Friday, November 10, 2000**
0001 to 1200. At Rig.
1200 to 1600 Swapped generators; changed filters for port and starboard generators; cleaned engine room; pumped gel and water to the rig; emptied forward liquid mud tanks for drill water.
1600 to 2400. At Rig.

**ESTIMATED TOTAL HOURS OF "REST"**: 6.

**Saturday, November 11, 2000**
0001 to 1600. At Dock. Loaded drill water into #2s & #5s and forward liquid mud tanks.
1600 At Rig. Pumping water and cement to the rig.
2400 At Dock.

**ESTIMATED TOTAL HOURS OF "REST"**: 4.

**Sunday, November 12, 2000**
0001 to 0800. Standby at Dock.
0800 At Dock. Loaded Cement.
1200 At Rig. Pumped cement to rig.
2400 At dock.

**ESTIMATED TOTAL HOURS OF "REST"**: 6.

**Monday, November 13, 2000**
0001 to 0800. Standby at Dock.
0800 Picked up pallets of ???
1200 to 2400. Standby at Dock.

**RECEIVED 8 HOURS OF REST, 6 HOURS OF SLEEP.**

**Tuesday, November 14, 2000**
0001 to 0400. Loading Barite at the Dock.
0600 Crew change. (I was paid 1/2 a day going on duty and coming off duty)

**Issue #9 – Who Determines a Vessel’s Crew Size?**

We next examine an important question that involves the matter of **who** determines the crew size on any vessel, **how** they arrived at the number of crewmembers, and **when** they did so.

The Marine Safety Directorate in Washington remains the sole arbiter of vessel manning decisions that, for most purposes, are set in stone in Volume 3 of the Marine Safety Manual (MSM). Their decisions affect every inspected vessel’s Certificate of Inspection and will affect towing vessels in the future. Where did these decisions on safe vessel manning came from, when they were made, who influenced them, and how they are applied or even justified years later needs to be probed in depth.

Our Association believes the “who” **should** involve three parties namely 1) the vessel’s owner, 2) the Coast Guard,
and 3) representatives of the mariners (e.g., labor) who man the vessel.

Our Association determined that mariners are always excluded from consideration in the manning process — leaving them subject to determinations by faceless bureaucrats who may never have served on a commercial vessel and to greedy vessel owners who exploit bare-bones manning requirements to place profit ahead of safety considerations.

Our mariners alone bear the burden of the work that takes place under working conditions often unregulated by the Coast Guard including unregulated hours-of-service on OSVs, towing vessels, and small passenger vessels.

In light of specific vessel assignments, the Master of a vessel, as a professional merchant mariner, also should be able to question the professional expertise or judgment of the Coast Guard officer who signs a vessel’s Certificate of Inspection. Shortcomings must be guarded against since many Coast Guard officers assigned to the Marine Safety Directorate never served in commercial maritime service including the types of vessels they are assigned to regulate. Many have never even observed the work performed on limited-tonnage commercial vessels.

While a long-term solution is to bring ashore trained and experienced merchant marine officers ashore and replace Coast Guard officers (including USCG “re-treds”) in the Marine Safety Directorate, there should be an open appeals process attentive to mariners who are frustrated in reporting hours-of-service, safety and health violations.

“The level of manning on a vessel is highly subjective and generally left to the discretion of the OCMI that certifies the vessel.” Unfortunately, this passage quoted from the MSM statement is true. It is also likely some OCMI, who may never have completed a single commercial voyage in his life, is the authority that signs the vessel’s COI. Absent a negotiated union contract, we can understand why many crewmembers on OSVs and towing vessels simply quit a company or even the marine industry when worked beyond endurance.

In an era of new-building larger and more technically advanced OSVs, a subcommittee of NOSAC was asked to consider whether larger Offshore Supply Vessels would require additional personnel to operate them safely. Their response was that as a result of advances in vessel automation and heightened requirements for crew training, in accordance with the ISM Code and STCW, it was likely that more sophisticated vessels manned by better trained crews would enable larger vessels to be operated by a crew complement comparable to that of existing vessels. We disagree!

Our Association became quite concerned about the manning issue when we learned that industry planned to use a standard “two-watch” system to man these huge new OSVs, most exceeding 1,600 GRT, rather than the “three-watch” system used in the blue-water merchant marine. In April 2008 we reviewed the work of NOSAC’s Subcommittee on Certification and Standards for Large OSVs and communicated our thoughts to them. The "two-watch system" is a euphemism that conceals a demanding workweek at least 84 hours long. Unfortunately for many of our mariners serving on OSVs and towing vessels, the actual working hours often extend far beyond the statutory maximum of 12 hours per day. Larger vessels with more and heavier deck equipment, lines, cables, chain, and hoses as well as larger steel surface areas subject to rusting, chipping and painting require substantially more, not less, maintenance and physical labor. Such vessels generally operate with a "three-watch system" in blue-water merchant marine service. However, the offshore oil industry has been able to get away with exploiting its work force for so many years because it is largely “out of sight” to those outside the industry. Many people do not remember that the offshore oil industry developed its own security screen two years before 9/11 in response to the threat of union activity — not terrorist threats — and operated behind that opaque screen ever since. The managers of companies in the towing industry apparently see advantages in using the same techniques.

Although our Association informed Congress, the Marine Safety Directorate, the NTSB, and the U.S. Department of Labor of problems with insufficient manning levels especially on towing vessels, we saw few results and little or no interest or effort in enforcing even the existing safe hours-of-service standards specified by law and regulation.
maneuver and shift berths, moor and unmoor the vessel or perform work necessary for the safety of the vessel, the need for this repeated and constant activity comes at a significant cost to our mariners’ health and welfare when sleep patterns are interrupted where the vessel is not sufficiently manned for a very active 24-hour operation. Frequent turnarounds and constant cargo handling increase the crew’s exposure to spills and cargo accidents, especially when they are fatigued and need the help of additional personnel.

As stated above, part of the problem is that the manning level of a vessel is highly subjective and generally left to the discretion of the OCMI that certifies the vessel. The Coast Guard, along with the vessel owner, decides upon the vessel manning scale that is placed on the Vessel’s Certificate of Inspection – notably without any mariner input whatsoever. This decision is final because it is extremely rare that a Certificate of Inspection issued when a new vessel first enters service subsequently is changed to reflect an unusually onerous vessel assignment or to call for a larger crew complement. A boat owner who obtains a COI with “bare bones” manning is granted an almost unlimited degree of flexibility that means “money in the bank” to him. If an officer or rating dared to go outside his company’s chain of command and request an upgrade in vessel manning, he likely would be terminated; and the Coast Guard would view such a request as a “labor dispute” involving a disgruntled crewmember.

Other than requiring a full three-watch system, the only remaining solution for any inspected vessel contracted for 24-hour service lies in tougher legislation and adequate enforcement that limits the length of the workday to 12 hours for both officers and ratings and provides a full crew for each 12-hour period. However, tougher legislation without the Marine Safety Directorate’s ability and commitment to provide adequate enforcement is worthless.

**Example #1 – Undermanning on Two Vessels in Collision Leaves Three Fatalities**

On Mar. 15, 1998(1) the OSV C-Captain, a 220-foot x 56-foot supply vessel of 1,699 gross register tons (GRT) and 2,462 tons (ITC) collided with the OSV Bass River, an older 175-foot x 45-foot supply boat. The collision sank the Bass River within sight of Port Fourchon, LA, with the loss of three lives. In this accident, the Master of the Bass River served as his vessel’s sole lookout on the inbound voyage that traversed congested near coastal waters. He was alone in the pilothouse and exercised poor judgment and/or incompetence that led to the accident. (1)NMA major case file #M-407.

While awaiting a final accident report by the Coast Guard, our Association discovered that the C-Captain's Certificate of Inspection allowed this large OSV to operate in the domestic offshore oil industry with a crew of only 5 persons namely 1 Master; 1 licensed Mate; 1 Chief Engineer; 1 Able Seaman, and 1 Ordinary Seaman. The extremely low manning level served notice on our mariners of the offshore oil industry’s plans to push “bare bones” manning on Certificates of Inspection for increasingly larger vessels. However, this radical manning level for a large OSV apparently slid by unnoticed as the Marine Safety Directorate’s goal satisfied a well-connected boat owner’s bottom line without also considering in the safety and well-being of mariners. However, in this incident, it happened that there were a number of additional, fully-qualified mariners in training aboard the C-Captain although they just were not in the pilothouse monitoring the navigation of the vessel.

The Coast Guard deserves censure for allowing large oilfield vessels operating in 24-hour service to be crewed with such a small a number of mariners. There were not even two full crews available on the Bass River to man the engineroom, pilothouse, and the deck without calling out the entire crew for even the most inconsequential maneuvers such as safely tying up to the dock or to an offshore facility in calm weather.

**Example #2 – Tonnage Manipulation Leaves Four Men to Operate a 184-foot OSV**

By 1998, new offshore supply vessels had started to grow beyond the “standard” 185-ft. OSVs that admeasured less than 1,600 GRT.

A tip by a licensed officer convinced our Association to request copies of the Certificates of Inspection (COI) from two 184-foot offshore supply vessels of only 76 gross register tons. Since tonnage controls vessel manning scales we noted that “tonnage” as unusual. We recognized this as our first introduction to a practice that has become commonplace in the offshore oil industry.

The tip simply from one of our mariners said that two sister ships, the M/V Gloria B. Callais and M/V Claire M. Callais, were allowed to operate with a crew of one master, one licensed mate, and two deckhands in 24-hour service. Both boats had a “domestic” regulatory tonnage of only 76 gross register tons (GRT) yet with an international tonnage (ITC) of 1101 gross tons. Both vessels played this “tonnage game” to operate in domestic service in the Gulf of Mexico. As far as mariners are concerned, this is a “race to the bottom.”

We noted that neither vessel is required to carry a licensed engineer or a tankerman although the Coast Guard authorizes both vessels to carry 4,200 barrels of Grade “C” methanol and hundreds of tons of Grade “E” oil-base liquid.
mud and non-combustible noxious liquid drilling fluids.

The requirement for a licensed engineer only appears on vessels over 200 GRT in domestic offshore service. There is no requirement for a tankerman since an OSV is not classed as a “tank ship” in spite of its large number of tanks and the potential for pollution. However, it might be reassuring to the Master of the vessel, whose license is on the line, to know that his two deckhands at least had some formal engineroom or tankerman training! However, no such training was specified by the COI.

When these two offshore supply vessels are away from a shoreside dock for not more than twelve hours in any 24 hour period, the crew may be reduced to one master and two deckhands – barely enough to tie this large a vessel to the dock. However, the vessel also may carry 20 “offshore workers” in addition to the crew – meaning that the crew will have a greater mess to clean up in a crowded environment that can quickly become one of an offshore flop house. However, it is refreshing although long overdue to finally see a notice in the Federal Register(1) that the Coast Guard is finally seeking public comment on “Accommodation Service Provided on Vessels Engaged in U.S. Outer Continental Shelf Activities.” [177 FR 5039-5041, Feb. 1, 2012, Docket #USCG-2011-0641.]

The Gloria’s COI was issued in Mobile, AL in Oct. 2003 while the Claire’s certificate was issued in Morgan City, LA in June 2003. There is one minor noteworthy yet unusual difference between the two COI’s. After the COI was issued in Morgan City it was later amended with this remark: “Added 1 deckhand at request of owner; added 1 PFD to required equipment.” This change was rare indeed.

Any mariner who ever worked on an OSV knows that running a 184-foot supply boat in 24-hour service with only four crewmembers is operating the vessel dangerously short-handed. Yet, the Coast Guard’s OCMI in Mobile didn’t seem to understand that. However, alarm bells should have gone off throughout the industry when the boat owner picked up on the issue and voluntarily added one deckhand to the COI on only one of the two boats. This may prove to be little consolation to the crew on the other boat some day in the future if they have to beg the owner to provide them with an “extra” man. They may be told: “the COI doesn’t require it.” If “not required” the owner sign can a boat rental contract for 24-hour service and pocket the extra money as long as his crew does not protest. In tough economic times, few crewmembers will risk their job by complaining although they may also risk their safety and health.

The OCMI who signed off on a four-man crew on a 184-foot OSV should have done his homework. The idea allowing four men to crew any vessel this size on a 24-hour basis, day in, day out, plays a cruel joke on every mariner manning a vessel this size. It is an accident waiting to happen.

Example #3 – FJA Should be Required Reading for the Marine Safety Directorate!

Two Coast Guard officers performed a Functional Job Analysis of Maritime Personnel Employed on Offshore Supply Vessels(1) and published this professional and detailed in-house study in Jan. 1982. Back then, the “typical” large OSV was 185-feet in length, about the same size as the two 184-ft. vessels mentioned above. While we may wonder why many officials in the Marine Safety Directorate never read this report as a job assignment prerequisite, we can no longer forgive them for ignoring it today!

Headquarters should have made this study required reading for every officer assigned to marine inspection or investigation duties involving vessels serving in the offshore oil industry. What’s more, OSVs have grown and become much more sophisticated in methods of propulsion, power generation, and pumping since 1982 as well as in terms of propulsion and dynamic positioning. However, the Coast Guard allowed its knowledge of our mariners who serve on these vessels to wither on the vine and gather dust on a bookshelf. It became clear to even the most casual observer that a decade of neglect caught up with the Coast Guard when retired Vice-Admiral James Card delivered his famous report on the Marine Safety Directorate to the Commandant in late 2007.(4) [Reprinted as NMA Report #R-401-E.]

In light of the vast changes since the FJA report was first published, perhaps the time has come for a new FJA report. However, we would not recommend this until Congress is assured that the Marine Safety Directorate would implement meaningful changes.

Example #4 – Undermanning and Tonnage Manipulation on Super Crewboats

[Vocabulary: "Super" Crewboat – A high-speed OSV of less than 100 GRT but 150-200 feet in length.]

Larry T. Rigdon, who at the time was Senior Vice-President, of Tidewater, Inc, revealed one method used to exploit limited-tonnage mariners working in the offshore oil industry in a letter addressed to a Coast Guard Docket(3) and reprinted below. [Docket #USCG-1997-3198.]

Copies of this letter also were e-mailed to and initialed by Captain William C. Bennett at the National Maritime
Center (NMC). Bennett’s branch of the NMC exercised control over the nation’s merchant marine personnel. However, senior officers in this branch apparently were unwilling to take steps to protect working mariners working on large, unmanned "super" crewboats or to protect the environment. They simply ignored the message.

“Super” crewboats are vessels constructed to admeasure less than 100 GRT but are often between 150 and 200 feet in length making them sizeable and high-powered vessels. Their Certificates of Inspection do not require a trained tankerman (PIC) as a person-in-charge of pumping the large quantities of fuel, liquid mud, liquid chemicals and other pollutants at the dock or at offshore destinations. In contrast, on inland waterways, a trained and properly certificated Tankerman (PIC) must pump dangerous liquid cargoes. In addition, a super-crewboat’s Certificate of Inspection does not require it to carry an engineer. The term “engineer” was kidnapped successfully from the small vessel manning vocabulary but never reported missing!

Chances are excellent if you hold an officer’s credential and happen to be on watch, you will be held responsible for an oil spill. Also, as an officer, you may find you are the only person with enough knowledge of the engineroom to change the oil and maintain 3, 4, or even 5 main propulsion engines and several generators. This knowledge often is perceived as a drawback to being a deck officer on one of these high-speed vessels. Ignoring the need for trained engineers is another example of how regulators overlook and thereby allow potentially unsafe conditions to exist on limited-tonnage commercial vessels. Consider Mr. Rigidon’s letter that follows. Emphasis is ours!

To Whom it may Concern:

“The following pages contain a response to the USCG request for industry input concerning the establishment of alternate tonnage design criteria and/or thresholds. Tidewater, Inc. (Tidewater) would like to offer some general information about the negative impact that existing tonnage design criteria are having on one segment of the offshore petroleum industry, and we will provide a Tidewater response to the alternative tonnage questions provided by the USCG for industry consideration.

“In general, it is agreed that any design criteria, which incorporates tonnage reduction techniques, can be manipulated to allow very high risk or unsafe vessel operations. Tidewater cannot emphasize enough our support for continuing action to stop tonnage manipulation resulting in the operation of vessels at high risk or in unsafe conditions. In order to help illustrate the significant risk associated with tonnage manipulation, Tidewater has provided examples of aggressive manipulation of the U.S. tonnage regulations in this document.

“An example of the manipulation of tonnage reduction techniques is the current "super" crewboat, (actually a fast supply boat). The "super" crewboat class, is made up of vessels between 150 and 200 feet in length, are powered by up to 6,000 horsepower(1) and are remarkably under 100 U.S. Gross Tons. These vessels can be and are typically operated by a four (4) person crew, composed of one master with an under-100 GT USCG license and three (3) ordinary seamen. None of these individuals are required to have any engineering based training. The only requirement for the three ordinary seamen is the completion of basic safety training under STCW.” [1]

Installed shaft horsepower for these vessels continues to rise. For example, the March 2008 issue of WorkBoat magazine shows the new 170-foot M/V Seacor Cheetah with 13,320 shaft horsepower. Fortunately, that vessel will carry a larger crew:

“These new "super" crewboats are actually working as offshore supply vessels, not as crewboats. The "super" crewboats routinely operate at speeds in excess of 20 knots, around the clock, while carrying up to 400 tons of cargo consisting of general oilfield supplies and equipment, fuel, water, and containerized items, including dry cement and barite in portable tanks. In the same manner of operation as an OSV, this cargo is off-loaded at offshore rigs and platforms either through transfer by crane or by pumping the liquids or dry bulk cement and barite off the vessel utilizing the vessel crew. Unlike an OSV, none of the crewmembers of the "super" crewboat are required to be DDE licensed(1) engineers or tankermen. We do not believe that this is what the rule makers envisioned when the Subchapter T rules were first drafted. Manipulation of this type should be stopped.” [1]

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“It is Tidewater’s opinion that operators are deploying "super" crewboats (really aluminum supply boats with passenger seats) as OSVs, to avoid the training impact of STCW, with fewer crewmembers with less training. Tidewater can evidence that recently delivered 165-foot "super" crewboats, built with three (3) main engines of 2,000 horsepower each are only required to have a crew of four (4) persons having the absolute minimum qualifications described above. This compares to the most recent new build 200 foot plus offshore supply vessels with only two (2) main engines of 2,000 horsepower each which is required by its COI to have a highly qualified crew of nine (9) persons.” [2]

Emphasis is ours!

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“An example of the manipulation of tonnage reduction techniques is the current "super" crewboat, (actually a fast supply boat). The "super" crewboat class, is made up of vessels between 150 and 200 feet in length, are powered by up to 6,000 horsepower(1) and are remarkably under 100 U.S. Gross Tons. These vessels can be and are typically operated by a four (4) person crew, composed of one master with an under-100 GT USCG license and three (3) ordinary seamen. None of these individuals are required to have any engineering based training. The only requirement for the three ordinary seamen is the completion of basic safety training under STCW.” [1]

Installed shaft horsepower for these vessels continues to rise. For example, the March 2008 issue of WorkBoat magazine shows the new 170-foot M/V Seacor Cheetah with 13,320 shaft horsepower. Fortunately, that vessel will carry a larger crew:

“These new "super" crewboats are actually working as offshore supply vessels, not as crewboats. The "super" crewboats routinely operate at speeds in excess of 20 knots, around the clock, while carrying up to 400 tons of cargo consisting of general oilfield supplies and equipment, fuel, water, and containerized items, including dry cement and barite in portable tanks. In the same manner of operation as an OSV, this cargo is off-loaded at offshore rigs and platforms either through transfer by crane or by pumping the liquids or dry bulk cement and barite off the vessel utilizing the vessel crew. Unlike an OSV, none of the crewmembers of the "super" crewboat are required to be DDE licensed(1) engineers or tankermen. We do not believe that this is what the rule makers envisioned when the Subchapter T rules were first drafted. Manipulation of this type should be stopped.” [1]

“Tidewater cannot emphasize enough our support for continuing action to stop tonnage manipulation resulting in the operation of vessels at high risk or in unsafe conditions. In order to help illustrate the significant risk associated with tonnage manipulation, Tidewater has provided examples of aggressive manipulation of the U.S. tonnage regulations in this document.

“It is Tidewater’s opinion that operators are deploying "super" crewboats (really aluminum supply boats with passenger seats) as OSVs, to avoid the training impact of STCW, with fewer crewmembers with less training. Tidewater can evidence that recently delivered 165-foot "super" crewboats, built with three (3) main engines of 2,000 horsepower each are only required to have a crew of four (4) persons having the absolute minimum qualifications described above. This compares to the most recent new build 200 foot plus offshore supply vessels with only two (2) main engines of 2,000 horsepower each which is required by its COI to have a highly qualified crew of nine (9) persons.” [2]
"Having cited only a single (extreme) example of the potential hazards associated with tonnage reduction schemes, Tidewater recommends no further consideration be given to the future use of any (including the current U.S. Regulatory) tonnage reduction techniques. Instead, the USCG should focus all its attention on the use of "International" tonnage and the establishment of acceptable corresponding thresholds for all new construction..."

Our Association respectfully asks Congress to provide for the safety, protection and well being of limited-tonnage mariners who are continually short-changed by a seemingly endless procession of cute tonnage schemes used by management to bypass significant regulatory breakpoints and safeguards. Reform the system to provide for adequate training leading to good jobs for American citizens.

**Example #5 – Undermanning Mini-Supply Boats**

In the June 2001 edition of *Workboat*, Captain Max Hardberger prepared an excellent article titled *Think Big: Bollinger Builds Small Boat with Big Boat Features*. The article and photos of the 145-foot M/V Lytal Andre were flawless. This *oversized oilfield utility boat* contained many features found only on larger supply boats but were crammed into a hull that measured less than 100 gross tons. However, *it is clear that domestic tonnage laws were not written or interpreted with an eye to the safety of our working mariners*.

Following specific complaints from one of our mariners, our Association sent a Freedom of Information Act request to the Coast Guard to examine the M/V Lytal Andre's Certificate of Inspection (COI) – a public document.

Since the boat is only 90 gross tons, the Coast Guard allowed the vessel to be manned for 24-hour service in the Gulf of Mexico with a crew of one 100-ton near coastal Master, one 100-ton near-coastal Mate and two green deckhands who need not be experienced (i.e., neither must they have Merchant Mariner Documents nor be rated as either an ordinary seaman or an able seaman (OSV)).

Since the vessel is less than 200 gross tons, it does not need to carry a licensed engineer. In fact, the Coast Guard's COI doesn't call for any "engineer" at all even though the vessel is crammed with pumps, engines, generators and other machinery. Consequently, all engineering duties must be shared by all crewmembers at any time of day or night in addition to other duties they may also have to perform on deck. This can place a great strain on the two licensed officers who are limited by statute and regulation to working no more than 12 hours per 24-hour day. Engineering duties on these vessels include:

- maintaining two 750-hp main engines including regular oil changes.
- servicing one 360-hp bow thruster engine including oil changes.
- maintaining the generators' diesel engines and regularly switching the vessel's two 75kw generators.
- maintaining two air compressors (not listed), their air receivers and pneumatic system.
- pumping, circulating, and monitoring up to 50,204 gallons of liquid mud en route to the job site.
- pumping and monitoring the transfer of up to 19,742 gallons of methanol with a separate, dedicated cargo pumping system.
- transfer up to 32,277 gallons of fuel to a rig, platform or other vessel.
- maintain and operate a 6"x 4" fire pump and 1,200 gallon per hour fire monitor and be prepared to use this equipment in regular drills as well as in true emergencies.
- be prepared to answer the engine alarms as part of an "unmanned" engineroom any hour of the day or night.
- start the fire pump and line it up for every fire drill.

The challenges of moving the vessel from one dock to another to pick up cargo items at any hour of the day or night, tying up to the rig in any weather, anchoring and weighing anchor, can be solved on a vessel so scantily crewed only by treating every movement of the vessel as an "emergency" and calling all crewmembers to their stations to handle lines, transfer cargo, pump liquids, or handle deck cargo. This abuses the definition of a true “emergency.”[1][2] As defined in USCG policy letter G-MOC-04-00, Change 1 in Chapter 2 (above).

The COI calls for 2 life floats/buoyant apparatus as lifesaving equipment for 24 persons. Wives and families of mariners’ working on OSVs, towing vessels, and even small passenger vessels must understand that existing regulations allow these vessels to this inferior "lifesaving" equipment. Using a *life float* means that each crewmember or passenger on the vessel must enter and *remain in the water* and hang on to a 3/8-inch polypropylene line for however many hours it may take to be rescued. This can be a tough order in the Winter and Spring when the water temperature in the Gulf hovers at 60°F. Fortunately, Congress, amended the statute[1] in 2010 to require that survival craft after 2015 maintain survivors “*out of water*” and thereby outlaw these life floats.[2] However, before Congress acted, the NTSB as well as
Although our example, the M/V Lytal Andre carries grade "C" methanol, grade "D" liquid mud, and diesel fuel, the COI does not require either a licensed engineer or tankerman to pump it. Consequently, if there is a spill of any of these liquids, the Coast Guard will seek to punish one of the licensed officers. The penalties can be severe if either the spill or its true size is even reported!

It is possible that one of these officers might happen to be on deck wrestling hoses or in the engineroom trying to line-up a pumping system when a spill takes place. The vessel is also authorized to carry "marine portable and "DOT" tanks types IM101 and IM102 (that) may be discharged or filled while on board the vessel provided they meet the cargo handling requirements of 46 CFR §98.30 and 46 CFR Part 64. DOT tanks types 57 may be filled or discharged while on board the vessel provided they meet the cargo handling requirements of 46 CFR §98.33.” Mariners without a working knowledge of these regulations or lacking basic common sense can adversely impact safe cargo transfer.

On a two-watch vessel such as the M/V Lytal Andre, one of the licensed officers would be expected to be off-duty while the other licensed officer's duty station is in the pilothouse. In any event, the COI says: "When transferring fuel oil, petroleum based liquid mud, or other combustible liquids, a certified tankerman, licensed engineer, or licensed deck officer shall serve as the designated person in charge." Since there is no licensed engineer or tankerman, guess who gets stuck in the game of "pin the tail on the donkey”? Hopefully the licensed officer is flexible enough to be two places at the same time – in the pilothouse where he is supposed to be and on deck or in the engineroom to control the transfer taking place!

Loading this complex vessel correctly requires an adequate knowledge of stability. In fact, it requires a greater knowledge than is presently examined by the Coast Guard at the 100-ton license level – based on knowledge requirements of the stability exam questions for 100-ton Masters.

While this new vessel certainly is a proud addition to its owner’s fleet, and noteworthy for both its naval architects, and the shipyard to crow about, we view it as just another dangerously undermanned vessel that the Coast Guard allows to sail into the Gulf – along with other vessels similar in design that were purposely squeezed under the 100-ton mark by naval architects to fit a comfortable niche in the market. We sincerely hope that this boat and its sister ships that are dreams for their owners will not become nightmares for their crews.

Example #6 – Untrained “Deckineers” Are Dangerous?

A “Deckineer” is person who combines the duties of a deckhand with those of an unlicensed and often untrained engineer. This term does not appear in any law, regulation, or even a dictionary. The term is used as part of “on-the-job training” used to justify an entry-level person’s presence in a vessel’s engineroom. According to statute such a person should not be employed on a vessel of over 100 gross tons although the Coast Guard seldom enforces this statute because working mariners do not risk bringing it to their attention. [46 U.S. Code §8104(e).]

Trying to be in two places at the same time – namely the engineroom and the pilothouse – can be hazardous to life and limb. The following example that took place on an inland towboat resulted in one fatal and two serious injuries and knocked out the Claiborne Avenue Bridge, a major New Orleans traffic artery, for over two months. [5 Refer to NTSB/HAR-94-03; NMA file #M-059.]

On May 28, 1993 the Captain of the small towboat M/V Chris instructed his newly-assigned deckhand (e.g., “deckie”) that he would have to drain the engine's fuel traps "on every watch" because they must have "picked up some dirty fuel..." According to the deckhand, the engines seemed to be in good running order earlier in the day but the starboard engine had started to run roughly. [U.S. Towboat Chris Collision with the Judge William Seeber (Claiborne Ave.) Bridge, New Orleans, LA, May 28, 1993. NTSB/HAR-94/03.]

The Captain told his deckie to go below and change the primary fuel filter on the starboard engine. The deckie went down to the engineroom where he shut down the starboard engine and changed the primary filter. While the deckhand was working on the starboard engine, the Captain kept the port engine engaged ahead at quarter throttle with his empty one-barge tow pushed in against the bank. The deckhand said that after he restarted the engine, "the Captain pushed the throttle forward to see if performance was better. The barge slid up the bank a little more, and he told me that he was still having problems with it...[and that] I needed to change the secondary [fuel filter]."

Shortly after the deckhand returned to the engineroom, the Captain left the wheelhouse unattended to go below and help his newly assigned deckhand change the secondary filter. Apparently, a wind gust caused the tow to start to slip and shift position. In the 3 to 5 minutes the Captain and the deckhand were in the engineroom, the tow headed south toward one of the support columns (i.e., “bent”) of the Claiborne Avenue bridge. The barge's headlog struck this major bridge support causing a section of the roadway to collapse.
The Captain had worked on this waterway for 20 years and was rated as a "very good master." The deckhand had only worked for the company for two days before the accident. In the aftermath of the accident, it appears that the deckhand was competent to change the two filters – but the Captain did not know this. The Captain was cited (and punished) for leaving his pilothouse unattended while he assisted the deckhand that he believed was necessary in order not to lose his place in the queue of vessels to catch the next lockage at the Industrial Locks.

Unfortunately, and the NTSB seemed to miss this point, this was a foreseeable result of providing a vessel's Captain with a deckhand with unknown and unproven qualifications to act as a "deckineer." After testing the engine and finding it did not operate properly after a filter change, this tempted the Captain to troubleshoot the malfunction using his 20 years of experience before entering the busy Industrial Lock and risking an engine failure with the potential to destroy the lock gate and tie up waterway traffic for weeks if not months.

The fact is that there are no requirements for licensed or unlicensed engineers to serve on board towing vessels. The practice of using a "deckineer" (i.e., a deckhand who also has additional assigned duties in the engineroom) may leave the engineroom unmanned at a critical moment. For example, if an engine stalls as a tow is entering a lock with the "deckineer" handling lines or a fender on the head of a tow, it may take several minutes for him to rush aft to the engineroom to restart the stalled engine…long enough for the tow to smash into (or through) the lock’s gates.

In another example, a "deckineer" on 105-foot docking tug in Mobile, AL, with only a three-man crew suddenly discovered he had engine duties to perform. He left the remaining deckhand to heave in a sopping wet 9-inch dacron towing hawser by himself. This caused the deckhand to suffer a serious back injury that permanently disabled him. The cost of the ensuing lawsuit would have easily paid the salary of a second deckhand for years!

In still another example, the Captain of an oceangoing tug went into the engineroom and restarted his engines without checking the oil. The oil had drained from a leak in the valve cover the previous day. The engine destroyed itself shortly after leaving the dock because of lack of oil.

There is no shortage of examples.
Industry Management Knows Better But Cares Less

Dr. William Sirois, Vice-President of Circadian Technologies, spoke to a packed house estimated to number 500 persons from all sectors of the maritime industry at the Eighth Coast Guard District Industry Day held in New Orleans, LA, on May 15, 1996. The topic of his address was Alertness Assurance: The Key to Reducing Fatigue and Human Error in the Marine Industry. Printed copies of his address were distributed to all audience participants. In his address, he spoke of the following anecdote that appears in print in the book The Twenty-Four Hour Society by Martin Moore-Ede, MD, PhD.\(^{(1)}\)

Example 1 – The Onset of Fatigue and its Consequences

By the time the accident occurred at 6:30 A.M. on Oct. 30, 1988, the tugboat captain had been on duty almost continuously since 3:00 P.M. the previous day. He had worked the 3:00 P.M. to midnight shift on the M/V Neill McAllister and then worked until 2:17 A.M. on another, more powerful twin-screw tugboat, the M/V Fritzy K. He had then changed tugboats, and had a short rest of one or two hours before he was called out again at 5:00 A.M. to meet the incoming cruise ship M/S Festivale.

It was dark when he met the M/S Festivale, and as he trailed the ship into San Juan Harbor dawn was just beginning to light the horizon – the most deadly time of day for someone who has been up for most of the night. By the time the accident occurred, our mathematical simulation showed that the tugboat captain’s sleep-deprivation depressed alertness level had dipped to its lowest point – much lower than that of a fully rested person.

The task of trailing immediately behind the stern of the M/S Festivale required continuous attention, but it was an extremely monotonous job for the captain, all alone on the bridge of his tugboat. *There was no steward to bring him coffee, the other crewmembers were down on the deck; no one could relieve him.* He just had to hang in there and try to concentrate on keeping his tugboat steady in the stream of wash that would spin him around backward and into the stern of the cruise ship if his attention lagged for a moment.

And then it happened. The fog of a microsleep appears to have descended on his brain so that, for a moment, he lost his attention on the task at hand. Before he knew it, his boat was spinning around and being pulled toward the M/S Festivale – and his reflexes were too slow to take the necessary corrective action. The tugboat swung around and came alongside the M/S Festivale. The tugboat’s bow, now pointing to the stern of the Festivale, became entangled with metal hooks on the side of the cruise ship. Obsessed with the potential to rip the canvas on his tugboat’s bow – a relatively minor problem – the captain failed to notice the large red letters just in front of him that warned of danger from the screws below.

Three loud thumps occurred below deck, and the captain still didn’t realize what was happening until the tugboat started to take on water and sink. He and his crew jumped into the water and swam safely to shore, leaving their tugboat at the bottom of San Juan Harbor.

Not every case is so clear-cut, but this account shows how the role in a human error incident of factors that cause loss of alertness and reduced performance can be assessed.

Our Request for Guidance on the “One-Watch” System on Harbor Tugs

October 5, 2006

TO: Commandant (G-LMI) and
    Commandant (G-PSO)
    Commander, Eighth Coast Guard District

Subject: *Request for Guidance on the 12-hour Rule as it affects Towing Vessels on a One-Watch System*

References:
- Title 46 U.S. Code 8104(a)(h)
- Title 46, Code of Federal Regulations, §15.705(a-d)
- Coast Guard Policy Letter G-MOC-04-00, Change 1
- Coast Guard Docket # USCG-2002-13594
Gentlemen:

The Gulf Coast Mariners Association writes this letter on behalf of the approximately 15,000 licensed towing vessel officers who work aboard towing vessels affected by the statutes, regulations, and policies cited above.

While we understand that most towing vessels in 24-hour service follow either a two-watch system and (occasionally, but very rarely, a three-watch system), this letter concerns watchstanding on a vessel on a one-watch system. Specifically, this refers to a towing vessel that has only one licensed officer on board the vessel while the vessel is on call on a 24-hour basis.

■ (name redacted) is the single licensed towing officer on a towing vessel that does ship-docking and other harbor work in a major southern port in the Eighth Coast Guard District. His vessel operates with a single watch crew on a 24-hour basis. I have heard similar stories from up and down the Atlantic Coast. However, this is the first one, however, that provided me with contact information that we can use to obtain further information or clarification. I am sure ■ will be happy to provide specific information although we did not want to put his name in this letter.

■ is a senior company captain operating a new, state-of-the-art towing vessel. His company is a non-union company. He appears to be satisfied with his employment. However, he believes that there are times that the work-hours he works are unsafe both for himself and his crew. Consequently, we present this as a safety issue.

■ called a Lieutenant Commander in his Sector’s Prevention Office who referred him to us. We want to ascertain whether the Coast Guard interprets the “one-watch” system he performs under as described is “legal” or not. Neither I nor LCDR (?) could provide him with the direct answer he requires.

The port ■ serves in is a busy port with constant activity. His company dispatcher will continue assigning his company’s vessels to various jobs (including ship handling and docking) throughout the port until such time as he is notified that Captain ■’s boat is no longer available. This might include jobs that are three hours here, four hours there, and six hours in a third place. If ■ is in the middle of a job, it may not be possible to break it off when he has put in the required twelve hours – and he may be forced to violate the statute with penalties and sanctions he seeks to avoid.

■ pointed out that he believes his company does not intend to break the 12-hour rules. The defenses they put in place are that they expect the captain to call the dispatcher after he has put in “ten hour behind the sticks” and give the dispatcher a two-hour warning notice that he will have to shut down the boat. When he does so, ideally the boat will be pulled off line for 12 hours. Again, this defense is not always possible. In one case he cited, he was “at work” for 22 to 23 hours in one 24-hour period.

The possible one flaw in this system appears in the definition of “work” in G-MOC Policy Letter #04-00 that states: “Work is any activity that is performed on behalf of a vessel, its crew, its cargo, or the vessel’s owner or operator. This includes standing watches, performing maintenance on the vessel or its appliances, unloading cargo, performing administrative tasks, whether underway or at the dock.”

His company, however, only counts his time at the helm as “work.” This means that he may find himself on duty doing “work” on behalf of the company that is not credited to his time on duty. Consequently, if the definition of “work” appeared in the regulations and not in an obscure policy document it might prevent work-hour abuse. This assumes that the Coast Guard’s definition of “work” is supported adequately by statute. If not, the Coast Guard has means of bringing this deficiency to the attention of Congress – as do we. Additionally, we opine that this is one of the things the regulatory team working on the towing vessel inspection docket should consider.

■ reports that there are many times that the sleep he obtains on the job is badly fragmented. This would have adverse effects upon his circadian rhythm as documented by the Crew Endurance Management project the Coast Guard recently presented to Congress. He is unable to obtain six uninterrupted hours of sleep – a significant safety problem. While six hours of uninterrupted sleep is an STCW requirement on many vessels operating in international waters, his vessel and other harbor tugs operate on inland waters.

Another possible flaw is that 46 U.S. Code §8104(a) calls for deck officers to obtain six hours of rest before taking charge of a watch. Under this “one watch” system as described to me by the mariner, such rest is not always possible making this an unsafe condition. See our entries on the docket cited under “references” above.

On May 15, 1996, I attended an Eighth Coast Guard District Industry Day meeting where the keynote speaker was William G. Sirois [above]. Dr. Sirois told the audience of approximately 500 maritime industry executives the story of the sinking of the ship-docking tug M/V Neill McAllister. The story appears in the book The Twenty-Four Hour Society by Dr. Martin Moore-Ede, MD, PhD, and describes a situation similar to that described by our mariner. It is predictable that conditions described by ■ could lead to comparable fatigue-related accidents.

In an unrelated towing accident – the oil barge “B-120 grounding Apr. 27, 2003 in Buzzards Bay where a licensed mate chose not to seek help from his off-duty captain, paragraph 2 of the investigating officer’s informal report[7] stated:
“Studies, including Coast Guard studies show that "sleep deficit" occurs after the first day of this routine of 6 hours on, 6 hours off, increasing in its effect on cognitive abilities (alertness) each day. **Calling for the master's assistance for non-emergencies increases his/her sleep deficit and exceeds work hour limits set by law. Therefore, many functions must be accomplished by a single deck officer or timed to occur during watch changes.** The Mate had an incident on his prior watch where a tow wire was lost; this incident may have negatively impacted his rest during his “off” period prior to the grounding. It may also have impacted his working relationship with the assigned deckhand if he had been involved.

“In this staffing situation a single person was on watch with complex as well as mundane tasks to be completed. There are enumerable details to be aware of as the transit progresses and the nature of the marine environment changes. This must be accomplished day in day out, while in sleep deficit, with no additional direct oversight or assistance to help catch human slips or errors…” [Misle Activity #1784825, Misle Case #11423, MSU Providence; Also see NMA Report #R-429-D.]

“Another significant third towing accident involved the M/V Robert Y. Love, over four years after the accident, the Coast Guard charged the vessel owner as well as the master with violating the 12-hour rules and fined them $20,000 and $5,000 respectively. However, (a decade after the accident) the public is still awaiting the final decision from the Hearing Officer after the towing company appealed the Coast Guard’s small civil penalties.

“Please notify us whether you believe this situation is adequately covered by existing statutes, regulations, or policies or whether the Coast Guard should (and will) initiate a legislative change proposal. Since I am not an attorney, please phrase your written response in terms that the mariners who read our Newsletter will understand…."

s/Richard A. Block
Secretary, National Mariners Association

[NMA Comment: One important survival aspect of the two-watch system for officers is that each officer is expected to carry out his own watch without interrupting the sleep of the other officer. The policy falsely assumes that illness, fatigue, calls of nature, distraction by electronic devices will not take place. The well publicized collision between a Duck tour boat and the barge tow of the tugboat Caribbean Sea on July 9, 2010 in the Delaware River at Philadelphia resulting in two fatalities is only a recent example of these false assumptions (e.g., electronic distractions) coupled with a faulty watch policy (i.e., two watch system) and poor judgment.]

If new hours of service regulations were necessary, we expected the Marine Safety Directorate to announce them when they finally issued the proposed Towing Vessel Inspection NPRM rulemaking in August 2011. Unfortunately, that did not happen and this issue remains unresolved.

**Our Association reiterates that towing vessels, OSVs, and small passenger vessels be designated as either “twelve-hour” or twenty-four-hour” boats and that a complete deck and engine crew be mandated on the vessel’s COI for each watch on every 24-hour boat.** A similar system has existed for years on OSVs in the Gulf of Mexico. However, many operating companies “cheat” by chartering their vessels at lower-rates to provide for 12-hour service. They then place the burden on the licensed officer whenever their customer pressures the vessel’s Master to provide service beyond the 12 hours. If an officer complains, he probably will lose his job for doing so. He has no recourse to the Coast Guard that often fails to investigate anything that looks like a “labor issue.” Our Association filed many substantial manning complaints on behalf of mariners that never were properly investigated by Coast Guard officials. We also followed up by re-reporting some of these complaints to the DHS Inspector General’s office before they released their report on “Investigations” in 2008. [Refer to NMA Report #R-429-M.]

[NMA Comment: We propose to Congress that Coast Guard inspectors as well as investigators be given access to vessel charter agreements and vessel official logbooks at each vessel inspection, at each accident, and for investigation of each manning complaint to ensure that all each inspected vessel is properly manned in accordance with its COL.]

**The Coast Guard Response**

The response to our letter of Oct. 5, 2006 (above) was drafted by Captain L.W. Thomas, Chief, Office of Operating and Environmental Standards (G-PSO) in a letter dated Nov. 7, 2006 and was as follows:

“This is in response to your letter of Oct. 5, 2006, requesting guidance on the 12-hour rule as it affects towing
vessels on a one-watch system. In your letter, you describe a specific instance where an individual may be working in excess of the maximum work-hours authorized on towing vessels.

“Licensed individuals employed on towing vessels are restricted by statute (46 U.S. Code §8104(h)) from working more than 12 hours in a consecutive 24-hour period except in an emergency.

“The Coast Guard attempted to clarify work-hour requirements in Policy Letter 4-00, dated Apr. 26, 2001. From your letter I note you are familiar with the policy letter which defines “work” as “…any activity that is performed on behalf of the vessel…”

“If a mariner has reason to believe that he or she is operating in violation of law or regulation, that person should report such violations to the cognizant Officer in Charge, Marine Inspection (OCMI). The OCMI has the authority to investigate possible violation of law or regulation.

“As you are aware, the Coast Guard is currently drafting regulations to establish Coast Guard inspection of towing vessels. It is unclear yet whether work-hours will be specifically addressed. However, we do expect to include a provision for safety management systems that will likely address some aspects of workplace safety, including work hours. I encourage you to follow this important rulemaking closely and provide input to the docket once it has been opened for public comment.

Please contact Mr. Dave Dolloff at 202-372-1415 if you wish to discuss this further.

Sincerely,

s/ L.W. Thomas, CAPT. (USCG)

[NMA Comment: Mr. Dolloff and at least one other “Project Officer” quit the towing vessel inspection rulemaking project before its completion and left the matter of “hours of service” unresolved in the NPRM issued on Aug. 11, 2011.]

**IF the Coast Guard Investigates…**

Although the Officer-in-Charge Marine Inspection (OCMI) has the “authority” to investigate reports of work-hour abuses, what does a mariner expect the OCMI to find **IF** he does investigate hours-of-service abuses? Here is what we tell our mariners…

We caution our mariners that **their logbook entries will have to bear out any expected findings.** This is why accurate logbook entries are crucial. However, for years, the Coast Guard claimed it did not have the authority to promulgate improved logbook regulations. Our Association submitted a formal petition to the Coast Guard on logbooks as early as March 28, 2000. The letters by our Field Director David Eckstein and the petition in this docket conveyed our Association’s concern about improving logbook standards, one that was shared by Congress when they amended the logbook statute in 2010.\(^1\)\(^2\)\(^3\)\(^4\)

Our goal in improving logbook standards is to encourage mariners to accurately report hours-of-service abuses in their logbook when left with no choice other than to work more than the legal 12 hours in any 24-hour period. By doing so, Coast Guard Investigators would have written evidence available in casualty investigations or to answer specific complaints by individual mariners. Unfortunately, since we submitted that petition, the DHS OIG determined that the whole process of Coast Guard investigations developed a sorry record of taking care of business in many areas that still call for reform. Nevertheless, as citizens and taxpayers, our mariners should be able to expect trained Coast Guard investigators to enforce the law! \(^1\)\(^2\)\(^3\)\(^4\)

\(^1\)At Docket USCG-2002-12581. \(^2\)46 U.S. Code §11304.

(1)\(^1\) Refer to NMA Report #R-304, Rev. 1.]
CHAPTER 10
SAFE MANAGEMENT OF CREW TRAVEL TIME

Hours-of-Service Abuses at Crew Changes Explained

On Oct. 26, 1996 Captain John R. Sutton, President of the American Inland Mariners Association (AIM), brought a dangerous crew-change practice to the attention of Admiral James Card. The dangerous practice cited in this letter continues today and played a pivotal role in the fatal 2002 Webbers Falls I-40 bridge allision incident that claimed 14 lives.

Document #1 – Captain John Sutton’s Letter

Dear Admiral Card,

In a recent conversation with a colleague, we discussed certain practices in the inland towing industry that I wanted to share with you. Since I do not know the depth of your personal knowledge of industry practices, please do not be offended if you already know about this practice.

The practice I will explain deals with watchkeeping on uninspected towing vessels and how a Captain is relieved at the end of his tour of duty on a vessel. It is a widely used practice for owners and operators of towing vessels to crew their vessels on a “2 for 1” basis. This is simply a rotation such as 14 days on and 7 days off or possibly 30 days on and 15 days off.

Rotating pilothouse crews in this manner involves using only three employees dedicated to the control of the vessel – 1) a Captain, 2) a Relief Captain, and 3) a Pilot. Only two are physically present on the vessel with the third on his time-off ashore. The Captain is the senior individual of the vessel and is so designated by the company. The Relief Captain performs the same duties as the Captain in his absence during time off. The Relief Captain fills the after-watch position and serves as Pilot when the Pilot is on time-off. The Pilot normally only fills the after-watch position and is usually the least experienced individual in control of the vessel.

The main problem with this widely used system is that it clearly violates the law regulating maximum work-hour limitations for operators of uninspected towing vessels. 46 U.S. Code §8104(h) states that an individual licensed as OUTV(1) may not work (even voluntarily) more than 12 hours in a consecutive 24-hour period.

Perhaps it is necessary to explain this system in greater depth. When the Captain and the Relief Captain are sailing on the vessel together, and the Captain gets off the vessel, the Relief Captain must change watches. This normally means that the Relief Captain must move from the after-watch to the forward-watch. Incidentally and traditionally, he moves his personal belonging to the Captain’s quarters (often with a bigger bed)! However, this means this individual inevitably has to work in excess of the statutory 12-hour limit on the day of the crew change. This may happen once every 15 days. Considering that the Pilot normally only works the “after-watch” and the Captain works the “forward-watch” it is only the Relief Captain that violates the law. This clearly is an accident waiting to happen.

As an example, the Captain of a towing vessel serves thirty days onboard the vessel. The regular Pilot of the vessel relieves him at 0630 on a given morning. Considering the Captain only worked 30 minutes of the first watch of the day it is now necessary for the Relief Captain to change watches and assume the duties as Captain of the vessel. He will work 17½ hours in this 24-hour period: 6 hours from 0001 to 0600 as the Pilot, 5½ hours from 0630 to 1200, and an additional 6 hours from 1800 to 2400 serving as the Captain of the vessel.

I was told by a company representative that this work hour violation could be alleviated in several ways if the Captain split the additional 5½ hours by "working over" before getting off the boat since he would no longer have to stand a watch, or he could stand all of the remaining 5½ hours. Nevertheless, one of the two licensed officers of the towing vessel still would have to violate 46 U.S. Code §8104(h) in order to complete this crew change.

Given the towing industry's deeply rooted premise that this system has always existed, why should they change their ways now? In searching for answers, we need to consider the safety aspects of operating a towing vessel for up to 18 hours a day without adequate relief and still comply with 46 U.S. Code §8104(a). I think it is also fair to assume the industry as a whole has always known this system violated the intent of the regulations governing watch keeping on uninspected towing vessels.

I suggest that the industry as a whole needs to address this obvious snubbing of U.S. Code requirements if it truly hopes to address the root causes of human error relative to fatigue as we move into the 21st century. Perhaps the National Steering Committee should review this topic for PTP or as an issue in the “Licensing and Manning for
Officers of Towing Vessels" as it relates to adequate manning issues.

Very truly yours,

s/Capt. John R. Sutton,
President, American Inland Mariners Association, Memphis, TN

A Safety Issue and Lack of Deniability

By this letter, Captain Sutton formally brought this safety issue to the attention of Coast Guard Vice-Commandant James Card. From the moment that letter was written and delivered to one of the nation’s highest ranking Coast Guard officers, that agency could never deny that they knew this problem existed.

Our Association later brought up the contentious issue of crew change before TSAC on many occasions in the past decade only to see the Coast Guard take no meaningful action. It was not addressed during the major rulemaking that transformed the licensing of towing vessel officers published in May 2001 nor in the Notice of Proposed Rulemaking of Aug. 11, 2011 that failed to deal with pressing personnel issues like fatigue, undermanning, and hours of service into the background. It became clear that neither TSAC nor its Coast Guard designated managers were concerned with the problem unless an accident occurred. When such an accident did occur, it was a major casualty of national significance. The accident took down the Interstate 40 bridge at Webbers Falls, Oklahoma, in a 30 million dollar accident killing 14 people and causing a major highway transportation bottleneck.

Remarkably, the towing company involved in the accident appealed the Coast Guard Hearing Officer’s ruling that the company along with the towboat’s Master were responsible for violating hours-of-service regulations. Ten years after the accident, the final decision on the appeal to the Commandant is still pending. This is just one reason why our Association has so little confidence in the Coast Guard appeals process – and there are others! Refer to NMA Report #R-370-A, Rev. 2. Refer to NMA Report #R-436.

Perhaps realizing that the issue of work-hour abuse had become a burning issue, the American Waterways Operators in a joint “Safety Partnership” with the Coast Guard took up the issue outside of TSAC. In fact, in Appendix A of the Report of the Coast Guard-AWO Quality Action Team on Towing Vessel Crew Fatalities, the AWO clearly stated how they, in “partnership” with the Coast Guard, avoided examining this issue in the presence of the Federal advisory committee by using a “Quality Action Team” (QAT) approach. Although their QAT report had no input from maritime labor, its importance lies in the fact that it exists and that it represents the shared views of the Coast Guard and the AWO that reportedly speaks for “80% of the tug and barge industry.” Nevertheless, licensed and unlicensed mariners man 100% of the nation’s towing vessels. Regardless of our doubts about the validity of certain parts of this “joint” report, our Association urged every mariner to read and study a copy of this report. Reprinted as NMA Report #R-428-B.
Coast Guard Lacks Authority to Regulate Unlicensed Mariners

Early in 2003, our Association learned from RADM Pluta’s staff at the Marine Safety Directorate in Coast Guard Headquarters that “Research conducted by his legal staff revealed that the Coast Guard lacks the requisite statutory authority to generate regulations addressing work-hours for unlicensed mariners working aboard uninspected towing vessels. Based on this, the Coast Guard cannot initiate a rulemaking project.” This response explains why we turned to Congress on this issue.

“Unlicensed Mariners”?

The Marine Safety Directorate knows that unlicensed vessel crewmembers work virtually unlimited hours yet offered no concrete support or encouragement to overcome this injustice in TSAC, MERPAC, NOSAC advisory committee meetings or elsewhere. Part of the problem as it relates to towing vessels relates to the AWO recommendation as part of its Responsible Carrier Program (RCP) to limit unlicensed crewmembers to only 15 hours of work per day. While this policy condones a 105-hour workweek it is only a recommendation and is not binding. Although RCP has much to recommend it, its policies do not have the force of law and its recommendations only apply to AWO members. Thousands of limited-tonnage mariners work for non-AWO companies. An AWO membership count of about 225 companies does not include figures gathered by the U.S. Army Corps of Engineers and the Coast Guard that show more than 1,100 towing companies in the United States. These figures will be refined as the towing vessel inspection process moves forward.

This chapter will examine the work required of mariners serving on line-haul towboats on thousands of river miles defined as Western Rivers\(^1\) in Coast Guard regulations as follows; Western Rivers means the Mississippi River, its tributaries, South Pass, and Southwest Pass, to the navigational demarcation lines dividing the high seas from harbors, rivers, and other inland waters of the United States, and the Port Allen-Morgan City Alternate Route, and that part of the Atchafalaya River above its junction with the Port Allen-Morgan City Alternate Route including the Old River and the Red River. [\(33\ CFR \$83.03(1)\)]

It does not take a rocket scientist to understand why there is now and will continue to be a shortage of deckhands, “deckineers,” unlicensed engineers, cooks, etc. willing to work on towing vessels and endure the conditions described below unless there are adequate provisions for rest, relaxation, and allowances for basic human needs in an aging workforce.

The Hell Hole: Working the “Call Watch” From Baton Rouge to New Orleans

[Source: By Captain David C. Whitehurst, Member, NMA Board of Directors]

While the Chambers of Commerce and Port Authorities refer to the Lower Mississippi River between Baton Rouge and New Orleans as the “chemical corridor,” deck crews on the linehaul towboats refer to this area simply as “the Hell Hole.” Here is why:

As I relate this voyage, it was typical of many others. It started out in St. Louis, Missouri, at 09:40 on June 11, 2003 on the M/V Emanon, a typical 7,200 horsepower linehaul towboat that completed its 1,100-mile voyage to New Orleans without any exceptional or extraordinary events. We departed from the Riverway Fleet at mile 174 Upper Mississippi River (UMR) with 30 loads headed for New Orleans. On the second day out, we received orders to pick up one rake load and two box loads at Cairo, IL, at the confluence of the Ohio River. We picked up another rake and a box barge at Memphis, TN.

**Stop #1.** We arrived at the Waterman Fleet at 17:15 on June 12th at Cairo, IL. We woke the “call man” at 05:30 this morning. We will focus our attention on the “call man” and his “call watch” throughout the trip because we believe he best illustrates the need for establishing a reasonable set of work-hours for currently unregulated and undocumented merchant seamen working on the western rivers and inland waters.

We will leave it to your imagination to determine how a deckhand working a “call watch” on a typical Mississippi River linehaul towboat must face and solve the issue of fatigue during this voyage. To this point in time, the problem is his and his alone. Most people outside this industry have never heard of a “call watch” and are oblivious to it. It is seldom if ever mentioned in Coast Guard “Crew Endurance” literature. Since unions do not represent most “limited-tonnage” mariners in the inland towing industry, the average deckhand, as low man on the totem pole, has no voice in improving his lot. As an independent Association, NMA will speak on his behalf.

If you don’t know what a **call watch** is, the concept is simple. The deckhand assigned to a call watch, as the name
implies, is often called to work after hours whenever his services are needed. He is expected to stand his regular watch daily from 06:00 to 18:00 to perform regular duties on the towboat including cleaning the crew quarters (i.e., accommodation spaces”), the head (i.e., toilet and bathing facilities), and the pilothouse, chipping, painting and normal outside maintenance. In addition, if his services are needed at night, he will be “called out” to do “tow work” whenever there are pick-ups or drop-offs to make. Unlike working on the free-flowing Lower Mississippi River (LMR), when working on a river with locks (i.e., a “locking river”) a deckhand on call watch is expected to be on deck at every lock, rain or shine, Summer, Winter, Spring and Fall. Normally the deck crew swaps out the call watch duties every week or so. In this way every deck crewmember has an opportunity to draw the call watch.

The purpose of the call watch is simple. It saves the towing company the money it would have to spend if they assigned a full day deck crew and a full night deck crew although making and breaking tow takes place 24-hour a day. There isn’t a whiff of overtime pay for pulling the long hours that a deckhand must remain on duty when working a call watch.

At Cairo, the fleet boat, M/V Barge Beater, arrives at 18:05 with the rake barge (i.e., a barge with a sloping bow). Since our tow is too large to maneuver in the river, it requires the services of smaller towboats (i.e., “fleet boats”) to assist in adding or dropping barges at anchorages called “fleets.” The barge is wired into the tow with its rake end upstream on the starboard stern. Now, at 18:35, the fleet boat leaves us to pick up the two other barges scheduled for our tow. It returns a little over an hour later at 19:45 with two box barges (i.e., rectangular barges with squared bow and stern); the deck crew wires them in just ahead of the rake. This part of the job is finished at 22:05. However, we must break the boat out of the tow and move it over to center it and face it up to the newly assembled tow. We have to lay the backing wires (“long wires”), face wires (“bow wires”), 65-foot ratchet wires on the port and starboard bow and also the hold-down wires on the tow knees. It takes an hour to do this task and is now 23:05. The call-man heads back to the boat and the rain-locker (i.e., shower), rounds up a bite to eat and finally hits the rack (i.e., bed). The Captain is a nice guy so the call-man gets to sleep until 08:00. The deckhouse and the bottom deck is being chipped to prime and then paint so the call-man won’t miss out on his regular deck maintenance work. He will work until 17:00 with a break for lunch, then shower, have dinner, watch a little TV and go to bed.

Stop #2. We arrive at McKeller Lake (Memphis, TN) mile 725 LMR (Lower Mississippi River) at 01:10 on June 14th to pick up the rake and box loads. The call-man was wakened just before midnight at watch change at 23:30. The fleet boat, M/V Rustbucket, arrives with the two barges at 01:50. The assembled deck crew (i.e., one deck mate and one deckhand) augmented by the call-man wires these barges into the tow, finishing the job at 02:55. We get underway, southbound, with 35 loaded barges with the next stop scheduled at Baton Rouge, LA. The call-man heads back to the boat and the rain-locker (i.e., shower), rounds up a bite to eat and hits the rack (i.e., bed). The Captain is a nice guy so the call-man gets to sleep until 08:00. The deckhouse and the bottom deck is being chipped to prime and then paint so the call-man won’t miss out on his regular deck maintenance work. He will work until 17:00 with a break for lunch, then shower, have dinner, watch a little TV and go to bed.

Stop #3. It is 04:25 on June 16th when we back in at the Cap-Mar Fleet just below the upper Baton Rouge Bridge at mile 236 LMR. We have entered “the Hell Hole.” The call-man is wakened at that time. The fleet boat, M/V Headline, arrives at 05:15 and the fun begins even though we only have one barge to drop.

At 08:00 we back in and drop off one barge. It just happens that this barge is in the port outside string of barges, the second barge from the head of the tow. The deck crew has to break about 12 sets of rigging to get this barge out of the tow. The fleet boat departs with the “drop” (i.e., the dropped barge) at 05:50 and heads to the fleet where its crew will secure the barge in the fleet. The M/V Headline then carries out its regularly scheduled crew change. The fleet boat crews generally work 12 hours on and 12 hours off duty. The M/V Headline returns at 06:40 to finish their tow work. They slide the two loads back and wire the barges into the tow. We release the fleet boat and depart southbound at 07:25. Now the call-man returns to the towboat from the tow, pours a cup of coffee, and takes a break in the deck locker. On this boat, the deck locker is an open work room with tools, vises, a janitorial sink with running water, deck supplies, and milk crates to sit on with all the comforts of a gymnasium locker room. Although not air conditioned, it provides shade, shelter from the elements and a place to shed your work vest and equally filthy clothing and rain gear to prevent “tracking up” the interior of the boat. It is the boundary between the outside world and the air conditioned comfort and cleanliness of “home.” To complete the removal of one loaded barge, there are about 10 to 12 sets of rigging to break and re-lay. One set of rigging consists of one ratchet that can weigh about 30 pounds and one 35-foot wire (i.e., cable) that has a eye in both

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ends. The extent of the work all depends on the size of the eyes and the diameter of the wire. Maybe the wire is 5/8 inch, or 7/8 inch or even 1 inch so its weight varies although its length is standardized. Most of the wire is used elevator hoisting cable that has already completed its first lifetime of service and may be starting to develop “fishhooks” or broken wires that make it very user unfriendly. Then there is the chain sling. This is a wire hula-hoop with anywhere from four to six chain links on it. Again, the weight varies. The chain links, shackles, and pins are accessories. Handling the first barge took a little over three hours including the time to unwire, move it, and rewire the barges that have to be moved.

**Stop #4.** After finishing our work at Cap-Mar Fleet we depart and head to the next stop at CCI-Baton Rouge about four miles down river at mile 227.5 LMR where we arrive 35 to 40 minutes later. We back in just below Collegetown Light, mile 226.6 LMR arriving at 08:20 on June 16th. Here we must drop off three barges. One barge is the second barge back from the head of the tow in the starboard middle string of barges. The second barge is on the port stern outside. The third barge is on the starboard stern inside string, fourth barge back from the head of the tow. (*Vocabulary: String = a row of barges counting from front to rear within the tow.*)

The fleet boat, M/V Nopush, arrives at 08:50. The first move is to pull two barges out of the starboard middle string and hang a drop barge on another drop barge that is on the starboard stern corner of the tow. Then the fleet boat must go into the hole with one barge. Next step is to pull four barges out of the inside starboard string. He puts this drop barge end-to-end with the first drop barge that he hung down on the outside of the tow.

Next, the fleet boat goes back into the inside starboard string with the three barges. After all this is wired back in place, we have old M/V Nopush move one barge over to the inside string and wire it into the tow.

Now, the M/V Nopush faces up to the hang down drop barge and departs with all three loads. We book eight (8) sets of rigging because our orders show that we must pick up five empty barges on our northbound voyage. The M/V Nopush finally departs, and we back out and head southbound. It is now 15:15 and the call-man heads back to the boat. The cook has his plate (i.e., a very late lunch) in the oven. The call-man jumps into the rain locker, eats and heads to his rack to grab a few winks before our next stop at the Darrow-180 Fleet. The call-man has been up and on duty for the past 10 hours, 50 minutes and knows what lies ahead.

**Stop #5.** Our next stop at the Darrow-180 Fleet, about a six-hour run with one barge to drop. We arrive at Darrow-180 Fleet at mile 180 LMR at 20:05. The call-man was awakened at 19:30. He dons his personal protective gear including a pocketknife, steel toe boots, leather gloves, and grabs a cup of coffee and heads out on the tow. We have two barges to drop at Darrow-180. Both are on the head of the tow, side by side. The fleet boat, M/V Bottomsup, arrives at 20:20. He pulls the “drops,” hangs them on the outside of the tow, and slides one barge over. He then faces up to the drop barges and heads to the fleet. We back out and depart southbound at 20:50. The call-man comes off the tow and back to the boat. He gets some coffee, relaxes on a milk carton in the deck locker, and maybe has a bite to eat because the next stop at the Darrow-175 Fleet is only about 35 to 40 minutes away.

**Stop #6** is at Darrow-175 Fleet at mile 175 LMR on the left descending bank (LDB). We back in out of the navigation channel just above the Pumpkin Bezette Range Lights, mile 173 LMR, LDB. A fleet boat, M/V Bumper, is on scene. We have five barges to drop with three of them in the inside port string and two more on the stern that are now serving as face-up barges. We take the three barges in the port string off first and the M/V Bumper departs at 22:35 headed back to the fleet with these drops.

The deck crew starts to break the boat out of the tow and even takes several doubled-up wires off the two remaining drops that are the two face-up barges on the stern of the tow. Since two of the barges are faced-up to the towboat, we must break the boat out from the tow and remove our long wires, face wires, ratchet wires and hold down wires. We must replace the two barges we drop at this fleet with two other barges so we can reface the towboat to the tow. Needless to say, this involves considerable work.

The M/V Bumper calls and tells us that it will take them a little longer than expected because they are having trouble picking up the shore wire that they must tie the three barges they just took from us. This is because the fleet boat has only a Captain and a single deckhand who must manually pick up the eye of a 250-foot long 1½” diameter steel cable by himself using a pike pole or a grapnel, and then secure the three barges to it. **Things would move much more quickly and safely if he had a second deckhand to work with.** If the fleet boat’s deckhand falls overboard, it will be extremely difficult for the Captain, as the only other person on the boat, to rescue him from the river. But, that is a preventable “accident” waiting to happen and apparently cheaper to insure against rather than to man the vessel with an adequate number of deckhands.

Fleet boats on rivers should be fitted with appropriate lifesaving gear including a Jason’s Cradle or equivalent and manned with at least two deckhands to ensure that a man overboard can be retrieved quickly. Companies operating fleet boats should be required to plan for just such an eventuality. However, the Towing Vessel
Inspection NPRM contains no such language.\textsuperscript{(1)} [\textsuperscript{(1)}Refer to NMA Report \# R-354, Rev.4.\textsuperscript{1}]

While waiting for the fleet boat to return, our deck crew takes a short break, and gets some coffee or Gatorade. At 00:10 on June 17\textsuperscript{th}, the M/V Bumper arrives back and we finish breaking out the boat and position the M/V Emanon on the outside of the tow to hold it in position while the M/V B\textsuperscript{UMPER} extracts the last two drops and pulls back up to the tow. It is 04:40 when the M/V Bumper departs with his last drops.

The next job is to drop six barges at the Donaldsonville Fleet that we access at the same stop. The Donaldsonville fleet boats are making their regular crew change so our whole crew has time to take a break and have breakfast.

At 06:15 the M/V Linebreaker, the Donaldsonville fleet boat assigned to work with us, arrives and our deck crew heads out on the tow and starts to unwind two barges on the head of the tow on the port side. At 06:45, the M/V Linebreaker is back and extracts one barge from the starboard string and hangs it on the stern of the tow. They then pull another barge off the head of the tow and place it on the outside of the other two drops. The M/V Linebreaker goes to the head of the tow and moves two barges over and our crew wires them in. The fleet boat now makes up to the drops and departs at 09:35. As we back out and head south, our call-man returns to the boat to shower and get some sleep before the next stop. The call-man has been up and on duty for the past fourteen hours.

Stop #7 is at Weber Fleet, Burnside, LA, mile 166 LMR. The call-man is awakened at 10:40 on June 17\textsuperscript{th} about one hour after he went to sleep; if there had been a delay he could have slept longer – but, that’s the breaks! We arrive off St. Alice light, mile 168.4 LMR and back in at 11:10. We have two barges to drop off. The fleet boat, M/V Bittpuller, arrives and starts to pull the first barge and hangs it on the outside of our tow. Then, he goes after the other barge, pulls it out and doubles up the two barges. He departs for Weber Fleet at 12:15.

We now have four barges to deliver to the CGB-164 Fleet at the same stop. The M/V Sinking is dropping some barges at Zen-Noh grain so the call-man returns to the boat, gets a bite to eat, and takes a little break awaiting M/V Sinking’s arrival. At 13:40, the M/V Sinking arrives and starts digging his four barges out. When he gets them in the clear, he hangs them on the outside of the tow and shifts a few barges in the tow so that it can all be wired back together to continue its southbound voyage. At 16:50, we say farewell to the CGB-164 Fleet and depart pushing twelve loads. The call-man comes back to the boat, gets something to drink and takes a break in the deck locker for the short run down to the Convent Fleet.

Stop #8. We arrive at Convent Fleet at 18:25 on July 17\textsuperscript{th} where we will drop two loads. The M/V Gizmo comes and picks up one barge and heads to the K-2 Rig. K-2 is an old ship that has been turned into a grain conveyor. It is 18:40 and we stand by waiting on the fleet boat. At 19:45 we call the fleet office and ask where the fleet boat is. The reply is that it is working at the K-2 Rig and will be with us shortly. The call-man is on standby in the deck locker as the fleet boat is expected momentarily. At 20:05 the M/V Gizmo reappears and picks up the second barge and heads off to the fleet with it. However, before we can proceed we must slide a barge over before we can depart. At 21:10 the M/V Gizmo arrives back and makes this shift in our tow. At 21:50 we start to depart when our FAX machine delivers the message that we have orders to drop one additional barge. We back in again and wait on the fleet boat. The call-man comes back to the boat and stands by in the deck locker. At 23:25 a different fleet boat, the M/V Downbow, arrives and starts to clear the drop. But, as soon as he gets it clear, the fleet office calls him and tells him to pull a barge off the K-2 Rig.

The M/V Downbow pushes the drop into his fleet and heads to service the K-2 Rig. We have to wait on the fleet boat to return and make a shift within our tow before we can depart. It is 00:50 on June 18\textsuperscript{th} when the call-man comes in off the tow and hangs out in the deck locker waiting for the fleet boat to return. At 03:05 the M/V Gizmo is dispatched to shift the barges in our tow so we can get underway. At 04:20 the last barge is wired into the tow and we are ready to depart southbound. The call-man comes in off the tow to the towboat, takes a quick shower, throws his pile of dirty laundry in the washing machine, and crawls into his rack before the next stop. The call-man has been up and on duty for 17 hours, 40 minutes.

Stop #9. We continue down river to the next stop at CCI-Terre Haute Fleet at mile 144, LMR, RDB (i.e., on the Right Descending Bank) where we arrive at 05:10 June 18\textsuperscript{th}. Since the fleet boat was making their crew change, we did not waken the call-man since we only had to drop one barge. The M/V Rollover arrived at 06:10 as soon as they finished crew change. They pulled the barge out of the tow with no problem. We continued southbound at 06:25 with seven loads.

Stop #10. We arrived at St. John’s Fleet, mile 141 LMR at 07:05 on June 18\textsuperscript{th}. We woke the call-man at 06:30 so he could get some coffee, dump his wet wash in the clothes dryer, and have a bite to eat before the fleet boat, M/V Downstream arrived to pull one drop barge off the head of the tow.
Packing Up

The fleet boat moved the drop barge to the stern of the tow so that our deck crew could strip all the loose rigging that had been dumped on that barge and stack it on the M/V Emanon. There are about 75 sets of rigging, two depth sounder poles, navigation lights, 1,000 feet of extension cord, 1,000 feet of sounder wire three two-inch and one-three inch jigger pumps used to pump several leaking barges en route along with their suction hoses and foot valves.

The Voyage Ends

Stop #11 is at CGB-LaPlace, mile 134.6 LMR, RDB where we arrive at 14:20. We have four barges to drop and the fleet boat, M/V Hitdock, arrived to help us land in the fleet. The M/V Hitdock assisted by pulling the last three drops for Upper St. Rose fleet out of our remaining seven barge tow. We assembled the remaining three-barge tow and departed LaPlace at 15:45 after picking up the remaining rigging.

Stop #12. We arrived with the last drops at the Upper St. Rose Fleet, mile 126 LMR, at 16:25 where we dropped all three barges directly in the fleet. At 16:40 we began pulling eighty (80) sets of rigging off these last barges and transferring them to the towboat. The deck crew finished with the rigging at 19:45 on the evening of June 18th at which time the call-man turned in after being up and on duty for the call-man was up and on duty for 13 hours, 15 minutes.

Crew Endurance

For members of the deck crew on a linehaul towboat, the Lower Mississippi River from Baton Rouge to New Orleans is called “The Hell Hole” a name that is especially appropriate for the individual on “call watch.” The “call-man” must take up all the slack of the deckhand that the company decided not to hire. There are few Coast Guard “manning” regulations that cover this sector of the towing industry. Let’s examine the on-duty hours our call-man put in.

Starting when he arises on June 16th at 04:25 and ending on June 18th at 19:45 encompasses a period of 63 hours, 20 minutes. Of that time, the call-man has been up and on duty for a total of 55 hours, 45 minutes. The call-man had three periods in which he tried to obtain some real sleep – other than possible catnaps lying on deck or propped up in the deck locker. However, the length of these periods (i.e., his “rack time”) was minimal: #1 – 4 hours, 15 minutes; #2 – 1 hour, 5 minutes; and #3 – 2 hours, 10 minutes. None of these periods meets the criteria of 7 to 8 hours of uninterrupted sleep the Coast Guard’s own crew endurance studies believe are necessary for a person to maintain his health and work safely during a tour of duty that can last from several weeks to a month or more. If contemplated changes in crew endurance are made, the outlook is that these changes will be voluntary rather than mandatory and that little will change in the life of a deckhand on a river towboat.

Most of this 55 hours, 45 minutes of “on-duty” time was spent in “tow work.” We note that this was a very good voyage. However, if a voyage goes bad, for example if the tow runs aground and breaks up it is left to the crew to put it back together again. This can take from hours to days to pull the barges off the ground and wire the tow back together again. It is left to the deck crew to pump and “shingle” (i.e., patch) leaking barges. The towboat moving such a tow carries many sets of emergency rigging to replace snapped wires. In an emergency, other towboats are pressed into service to round-up loose barges and prevent them from damaging shoreside facilities including docks, pipelines, bridge abutments, water intakes etc. One recent accident with a 42-barge tow caused $940,000 damage to facilities in Baton Rouge, LA. [(1) Refer to GCMA Report #R-340, Rev.9.]

The M/V Emanon’s tow came down river as a 35-barge tow 1,000 feet long by 245 feet wide. Some tows pushed by more powerful towboats contain as many as 48 barges. The M/V Emanon is equipped with about 150 sets of rigging that must be moved back and forth to the location on the tow where it is needed. Moving the other deck equipment on a tow or even walking to the head of a tow is like walking an obstacle course of narrow walkways broken by all sorts of tripping hazards. These hazards include such things as flush hatches with (possibly) loose covers, raised hatches protruding 8 to 10 inches above the deck with protruding dogs, high coamings and external braces, stiffeners, ladders, kevels, buttons, an occasional winch, and numerous other vents, pipes and fittings of all types depending upon the barge’s service. Deckhands must walk between barges floating at different levels and with gaps between some of the barges. This is especially hazardous at night with limited lighting, and it is very easy to lose a sense of situational awareness especially when fatigued. The rigging uses ratchets and “cheater pipes” for tightening and steel “toothpicks” to keep it from turning as it is being tightened. There are sledgehammers and other crude tools that must be taken out on the barges and later accounted for. There are also two depth-sounder poles, portable navigation lights with over 1,000 feet of extension cord conducting live 120-volt electricity across steel barges that often are wet or damp, and 1,000 feet of sound cord connected to a speaker on the head of the tow.

The rigging used on the tow is never carried or dragged the length of the tow because of its weight and because it is so clumsy to handle. Rather, the rigging is moved by water wherever possible. The fleet boat takes the rigging from the towboat to the point where it will be needed up and down the tow and will be returned in the same fashion.
All this equipment must be hoisted or lowered across the gunwales of the boat onto the deck of the barges, often across an intervening water gap.

Most companies provide radios for the deck mate (i.e., person in charge of the deck crew) to contact the pilothouse. Some companies provide a radio for each deckhand while others do not. Nevertheless, this is an important safety consideration. On hammering rivers the sounder cord carried to the head of the tow doubles as a speaker cord when entering the lock and at the break couplings on double lockings (i.e., where the entire tow is too long to fit into the locks) and is also used when making bridging.

There are “jigger pumps” to pump out leaking barges en route and a Jackstaff pole that must be mounted and remounted on the centerline of the center barge at the head of the tow. All this equipment must be moved from the storage locker on the towboat to where it is needed on the tow that, on the tow of the M/V Emanon, could be as far as 1,000 feet away – and longer on larger tows. When moved by fleet boat, all this equipment must be moved from boat to boat, often a number of times and from one level to another depending on whether the barges are empty or loaded.

There are no Coast Guard regulations that govern the work hours of the deck crew and few workplace protections actively enforced by the U.S. Coast Guard or the U.S. Department of Labor. It always has been to the advantage of the towing industry not to broadcast this problem and thereby avoid the spotlight of government oversight. They leave it to the injured and maimed to attempt to make their claims with their insurance carriers or fight the battle in court. There have been a plethora of injuries and fatalities reported over the years from a variety of causes that stirred the Coast Guard to raise the issue with the American Waterways Operators, an industry trade association, and to set up a “Quality Action Team” to examine the fatalities in 1996 (as mentioned below). However, the Coast Guard apparently has little insight on the matter of work-hours for unlicensed crewmen on this huge fleet of towing vessels that, even with the 2004 Congressional mandate, remain “uninspected” and inadequately regulated. The Coast Guard demonstrated little interest in addressing abuses such as those of the call watch by initiating a Legislative Change Proposal (LCP) as suggested by our Association. This is precisely why we, after discussing the problems with both the Coast Guard and the U.S. Department of Labor, turned directly to Congress for help.

It is not hard to understand why working this part of the Lower Mississippi River described in this report is called the “Hell Hole.” Nor is it hard to understand why fatigue is a leading issue among mariners working in the inland towing industry.

Our Association’s position on proper vessel manning is that towing companies should be required to provide two full crews on any towing vessel in 24-hour service and that the use of a “call watch” should be outlawed to protect the health and safety of our mariners.

Working “Call-Watch” on Locking Rivers

The Lower Mississippi River (LMR) below Cairo, Illinois is a free-flowing river from Cairo to the Gulf of Mexico. There are no locks or dams on the main in transiting from Cairo to Memphis, Baton Rouge, New Orleans or the Gulf. However, vessels traveling on the Upper Mississippi River (UMR) above Cairo, or the Ohio River (OR) or Tennessee River, and Cumberland Rivers, Tennessee-Tombigbee (Tenn-Tom) Waterway and connecting waterways above Cairo must pass through locks. This also is true of vessels leaving the main stem of the LMR to enter the major waterway listed below. The general purpose of a lock is to raise or lower vessels from one water level to another.

- the McClellan-Kerr Arkansas River Navigation System to Catoosa, OK.
- the J. Bennett Johnston (Red River) Waterway to Shreveport, LA
- the Gulf Intracoastal Waterway to St. Marks, FL and Brownsville, TX including many connecting waterways.

Preparing for and passing through these locks present challenges to all deck crew members but especially for those mariners serving as “call watch” on inadequately manned towing vessels.

Double Lockings on “The Upper”

On the Upper Mississippi River (UMR) above St. Louis, MO (and on other “locking” rivers) a typical 15 barge tow, five (5) barges long by three (3) barges wide is approximately 1000-feet long by 105-feet wide with the typical lock chamber size being only 600 feet long by 105 feet wide. Consequently a tow this large must be broken apart and “double locked.”

The towing vessel normally used for this size tow has 5,000 to 6,000 horsepower with deck crews consisting of five persons with one of the deck crewmembers assigned to the “Call Watch.” As is the usual practice, the call watch man is called anytime of day or night as he is needed. This can be quite often considering that there are twenty-eight locks in the approximately 670 miles between St. Louis, MO and St. Paul, MN (and fifty-three locks in the approximately 980 river miles between Cairo, IL and Pittsburgh, PA on the Ohio River). This includes while “making locks”, picking up barges, dropping off barges, and while the tow is moved through bridges. The time range the call watchman, usually a junior deckhand, works is anywhere from thirty minutes to twenty-four or more
hours and **has no legal limitation**. The Call Watch usually works two hours or more making and breaking tow while in the process of “making a lock” (i.e., each lock) in addition to the work necessary whenever the tow arrives at a barge fleet when the **call watch** is called out to work upon the tow.

**Northbound (Up-river)**

Here is how it works on the UMR going northbound above St. Louis. The tow is navigated into the lock and tied off. Then the tow is broken at the “**break coupling**” with the first group of nine barges remaining in the lock chamber. The towboat and six barges are backed out of the lock chamber and tied off outside the lock chamber on the “**long wall**” of the lock.

Next the lower lock gates are closed and the lock is chamber filled with water raising the tow to the level of the upper pool on the river. When the nine barges reach the upper pool level, the lock operator opens the upper lock gates. The lock has a rail with a small trolley-type fitting that the deck crewman left on the barges will tie the nine (9) barges to. The lock operator then operates a large winch with a cable that pulls the trolley that extracts the nine barges from the lock. The crewman on the barges ties them off to the lock wall outside the lock chamber and waits for the rest of his tow to arrive at the next lockage. While the nine barges are being extracted from the lock, the deck crewmember has to stop the moving tow using his deck lines and must tie the nine barges to the upper long wall.

Next, the upper lock gates are closed behind any downbound vessel awaiting transit. The lock chamber is filled with water, and the lower gates are opened so the northbound towing vessel and its last six barges can enter the lock chamber. The lower lock gates are closed and the water level is raised to the upper pool level. Then the lock gates are opened and the last six barges are pushed up to the nine barges that are tied off and waiting. The deck crew will use 14 sets of rigging to wire the barges back together. All this rigging must be removed and relayed at every lock. On a northbound trip, this step alone will take between one to one and one-half hours.

**Southbound (Down-river)**

When headed down river, the entire tow is pushed into the lock. Nine barges are tied off in the lock chamber. Then the other six barges and the towing vessel are backed out and tied outside the lock chamber on the upper long wall. The deck crew has to be on their toes while locking southbound tows, most tows are made up of loaded barges. The barges are flushed out of the lock chamber after the water is drained from the lock chamber. The lock operator opens valves that let water into the lock chamber behind the nine barges and serves to push the barges out of the lock chamber. When this happens, the deck crew must stop those nine barges with deck lines. If the nine barges are not stopped, the river current will take those nine barges down river out of control hitting bridges, barge fleets, docks.

All locking rivers are the pretty much the same; the towboat deck crews must work the heat in the summer, freezing cold and ice in the winter, rain or shine, day or night. The harshest of the duties fall upon the “call watch” that must be available 24-hours a day to work on any problems that may arise.

**Nothing Went Wrong on our Trip, but...**

At locks and dams on “locking rivers,” things can go seriously wrong in a hurry. NMA Report #R-390-A discusses the sinking of the M/V Elizabeth M and 6 Barges with four fatalities on Jan. 9, 2005 at the Montgomery Locks and Dam, Ohio River Mile Marker 31.7. This report reprinted a very thorough and professional Coast Guard investigation that was presented at a recent TSAC meeting. This report shows that the Coast Guard is still capable of making a credible investigation if it has the necessary resources and puts in the necessary effort to do so.
**TERMS USED ON RIVER TOWBOATS**

**Typical Towboat**

- **WHISTLE**
- **RADAR ANTENNA (SCANNER)**
- **PILOT HOUSE**
- **STARBOARD FLOOD LIGHT**
- **POT LIGHT**
- **CAPSTAN**
- **HEADLOG**
- **TOWING KNEE**
- **BOW RAKE**
- **CAVEL**
- **SPool**
- **CLOSED CHOCK**
- **STEAMBOAT RATCHET**
- **PELICAN HOOK**
- **JACKSTAFF**
- **PIKE POLE**

**Typical Tank Barge**

- **RED FLAG**
- **WARNING SIGN**
- **INSPECTION CERTIFICATE HOLDER**
- **PRESSURE VACUUM RELIEF VALVE**
- **BUTTERWORTH OPENING REDUCTION GEAR**
- **BITTS**
- **GOOSENECK RAKE VENT W/FLAME SCREEN**

**Definitions:**

- **TOOTHPICK**
  Used to prevent the ratchet, links, and wire from turning as you tighten.

- **SPool**
  Designed primarily for wire rope. Requires an eye to be used for tying or may be used as a fairlead. Normally placed on deck of a towboat.

- **CAVEL**
  Designed also for fiber or wire rope. This fitting requires a cross-over fashion of your line when making it fast. Checking (breaking action) a barge can be done with this fitting in the absence of timberheads.

- **CLOSED CHOCK**
  Used only for holding down line by running it through the center of the chock. Ideal in cases where the line is made fast below and eliminates “riding up” on the head.

- **STEAMBOAT RATCHET**
  Every coupling between barges requires at least two ratchets to pull them tight. Its ratchet in good working order with cleaned and oiled threads, will pull barges together with much less strain on your part. To avoid running out of thread when you need it, always wind the ratchet out when not in use.

- **PELICAN HOOK**
  Used for splicing wire.

- **JACKSTAFF**
  A long pole with a pendant or air sock attached to its tip and placed at center of head of tow. It allows pilot to check swing of tow.

- **PIKE POLE**
  A long pole with a hook on one end used for pulling in line or wire that is out of reach. It may be painted with red and white markings to denote a scale in measuring water depth or barge draft.

- **CHEATER BAR**
  Long hollow pipe placed over the ratchet handle to increase leverage.

- **BUTTON**
  Found mostly on lock walls designed to hold the eye of a line or wire. It is also used as a deck fitting on boats.

- **TIMBERHEADS**
  The timberhead or bitt is used with line for making fast, and for checking, mooring, etc.

- **SLEDGE**
  Breaks open a coupling by knocking the keeper loose from the pelican hook.
What Must Be Done to Protect Our Mariners

[Source: Ostriches Face Reality, by Captain Bill Beacom, The Waterways Journal, Nov. 6, 2006.]

Management in the towing industry uses the same approach to facing reality as the Ostrich. There are currently many personnel issues confronting the towing industry that management has no answer to. Those who think they have answers are being very quiet so they do not ruffle the feathers of those who might disagree with them. Or, they may consider the effort to keep their own house in order their only responsibility.

Because of this attitude, the industry is suffering.

Where is the leadership we see only when ice blocks the river or droughts shut navigation down? The problem of recruiting, training, and keeping employees is even more important because it is not seasonal, nor is it likely to change with an increase in rain. Because there are many reasons for the present dilemma, no one answer will solve the problem. An attitude change would certainly be a start. That attitude change must start with the Coast Guard and work its way down through everyone in management.

Seven years ago, the National Transportation Safety Board sent a letter to all modes of transportation recommending, for reasons of health and safety, the regulatory agencies ensure that all employees be given the opportunity for adequate rest, taking into account circadian rhythms, and a regular sleep time. The agencies responsible for airline transportation, trucking, and railroads complied. The Coast Guard replied they did not have the statutory authority to enforce compliance, and instead of figuring out a way to partner with the industry because the health and safety of the work force was being threatened, did nothing. They not only made no attempt to solve the problem, they ignored it.

This is not surprising, because it does not meet the industry criteria for establishing a partnership. Every boat employee knows what that criterion is. It must give the companies more independence to make money. This translates to a towboater as meaning that less people must do more work. That more work has many acronyms – RCP, CEM, VSO, SMS among others – but not one Coast Guard management partnership has resulted in compliance with the NTSB’s recommendation, or less work. On the contrary things are much worse now than they were in 1999.

Congress, upon seeing working conditions worsening and the Coast Guard doing virtually nothing, wrote and passed bills in 2004 giving the Coast Guard the authority to inspect towing vessels which includes manning requirements, and to also regulate the work hours of employees. Two years later, both the Coast Guard and the companies are still stonewalling, trying to come up with an idea for another partnership that can be implemented without costing the industry any money. The reader can easily recognize the arrogance of industry in taking the Coast Guard for granted. Example: The Towing Safety Advisory Committee, which the AWO completely controls, recommended as part of the new Safety Management System the following under working hours: “No crewmember on a towing vessel may work more than 15 hours in any 24 hour period or more than 42 hours in a 72 hour period, except in an emergency or drill.” This recommendation includes the following note: “The working group considered but did not adopt a recommendation that all crewmembers receive a minimum of 6 hours of uninterrupted rest in every 24 hour period.” Even slaves were allowed to sleep after the sun went down. Is it any wonder the industry can’t attract workers?

It is time to step up and move the industry into the 21st century or suffer the fate of those industries that died in the 20th. The naysayers will read this letter and brag they have always been able to control the Coast Guard and Congress, and nothing has changed. I beg to differ. The two bills mentioned above were passed with a Republican majority in both House and Senate, and a Republican President. This is unprecedented for Republicans. Democrats traditionally have been the only party to champion the causes of labor. Even if the Democrats don’t win the House, things are changing, because Congressman Oberstar will continue fighting for mariners with more Republicans at his side. If the Democrats win, he will be the (Committee Chairman of) the House Transportation and Infrastructure Committee, in a Democrat controlled House and will control House Coast Guard oversight.

The question is, can we fix it, or do we leave it up to Congress? The answer is yes, we can fix it, and a collaborative solution is always preferred over an imposed one. We start by doing away with all “call watches” and one-engineer boats over 1,800 horsepower. We move on by re-assigning responsibilities. One reassignment would be removing the burden of the Responsible Carrier Program and Crew Endurance Management from the Captain. Other steps must follow but these steps must be taken immediately.

Some companies have already taken some steps. There are people in management who are as appalled as I am over the direction the industry is taking. I could name several but will not complicate their lives by doing so because they are in the minority. Instead of having various industry meetings a year in which the topics most important to survival are always purposely left off the agenda, there needs to be a “return to reality” meeting to address personnel problems currently being ignored, with those being ignored invited. Oops!!!! While this may be another opportunity to pack a meeting with “yes men,” remember a solution has not been reached by only listening to the voices of those who are either too intimidated to give their true appraisal or aspire to a management position. This industry needs to accomplish something positive that will relieve the malaise and show mariners the industry
also wants its mariners to be its partners. The election will be over before you read this letter, and some of the players may change but the urgency to address this problem will not change.

As for the analogy to the Ostrich, that story was debunked long ago. No animal that is prey would survive if it hid its head, and no industry will either.

Capt. Bill Beacom
Sioux City, Iowa
CHAPTER 12
CREW ENDURANCE MANAGEMENT SYSTEMS (CEMS)

NTSB Directed Recommendation M-99-1 to the U.S. Coast Guard

As a result of its investigation into fatigue related casualties, the National Transportation Safety Board (NTSB) issued Recommendation M-99-1 to the Coast Guard on June 1, 1999 as follows: “Establish within 2 years scientifically based hours-of-service regulations that set limits on hours of service, provide predictable work and rest schedules, and consider circadian rhythms and human sleep and rest requirements.”

The Need for Scientifically-Based Hours-of-Service Regulations

Although NTSB “recommendations” are not commandments, the Coast Guard often (but not always) accords some degree of respect to NTSB recommendations. In this case, similar recommendations were also sent to other federal agencies within the Department of Transportation to “clean up their acts” as well.

Set Limits on Hours of Service

Licensed limited tonnage mariners that serve on tugs, towboats, offshore supply vessels and small passenger vessels are limited to 12 hours of service within a consecutive 24-hour period by statute(1) and regulation(2) reinforced by a Coast Guard Policy Letter(3) that explains the statutes in greater detail. Furthermore, a deck officer can only take charge of a deck watch on a vessel when leaving or immediately after leaving port only if that officer has been off duty for at least 6 hours within the 12 hours immediately before the time of leaving.(4) These laws and regulations have been in place for years. Unfortunately, no such laws limiting hours of service are in place for most unlicensed crewmembers. [1]46 U.S. Code §8104. [2]46 CFR §§15.705; 15.710. [3]G-MOC #4-00, Change 1. [4]46 U.S. Code §8104(a).]

Since only Congress can give the Coast Guard this authority, we asked the Coast Guard to request this authority from Congress by a “Legislative Change Proposal” on behalf of hundreds of unlicensed limited tonnage mariners. To that request we were advised in part: “Please keep in mind that you may pursue such requests on your own...” Consequently, on Feb. 14, 2003, noting the Marine Safety Directorate’s reluctance to lift a finger to assist our mariners, we followed this advice and petitioned 102 members of Congress by personal letters and asked them to

• Establish meaningful hours of service limits for unlicensed crewmembers. (1) This report reiterates that request.
• Review and set safe vessel manning standards.
• Request the Coast Guard to define “on-duty” time in the CFR instead of in an obscure “policy” document.(2)
• Require uniform logbook entries for all inspected vessels.(3) Congress enacted this request in 2010.(4)


Coast Guard Responds to the NTSB

In response to NTSB Recommendation M-99-1, on Oct. 8, 1999, VADM Timothy W. Josiah, the Coast Guard’s Chief of Staff, cited the agency’s ten years of domestic scientific research in the field of fatigue and its cooperation with the international community and cited several studies it published during the past 10 years. Of interest to our Association and its mariners, VADM Josiah also pointed out an ongoing research project titled “Watchkeeping Alertness in Towing Operations” that later became the Crew Endurance Management System (CEMS).

In this response to the NTSB, VADM Josiah sidestepped the issue by stating in part: “...while the complexities of the maritime transportation system preclude the Coast Guard from establishing scientifically based hours of service at this time, progress is being made on multiple levels, internationally as well as domestically, to rationally frame and address the fatigue issue on commercial vessels.” In other words, the Coast Guard chose to avoid or at least postpone dealing with mariner hours-of-service issues. Resolving these issues would be of greatest importance to limited-tonnage mariners who worked under the “two watch” system as compared with mariners serving on larger vessels with greater protection under the “three watch” system. Restated, the Coast Guard was willing to push research but avoid making the tough decisions its research would call for.

The NTSB, in a letter to our Association on Jan. 26, 2001 stated: “It is the position of the Safety Board that for the Coast Guard to satisfactorily accomplish Safety Recommendation M-99-1, the agency should determine the physiological and performance impact of various watchstanding shifts, including the 6-hours-on, 6-hours-off schedule. Based on the planned research studies discussed in VADM Josiah’s letter...M-99-1 has been classified ‘Open–
Acceptable Response,’ pending the Coast Guard’s establishing hours-of-service regulations using the scientific findings from its studies.

In the years following VADM Josiah’s declaration, our directors were favorably impressed with the professional quality and extent of the “scientific” work that the Coast Guard’s Research and Development Center presented. Yet, we were much less impressed with the way that the Coast Guard and industry – especially the towing sector – planned to apply these “scientific principles” to our limited tonnage mariners throughout the towing industry as explained in the ACBL “example” later in this chapter.

[NMA Comment: Our Association encourages our mariners to study all aspects of the Coast Guard’s research into “Crew Alertness.” If you apply what you learn, it could save your life and the lives of others.]

The Coast Guard Crew Endurance Management Report Was Given a Cool Reception by IMO in Feb 2003

The Coast Guard presented its work titled Crew Endurance Management Practices to the Standards of Training and Watchkeeping (STW) Sub-Committee of the Maritime Safety Committee of the International Maritime Organization in London in February 2003. Although the international community appreciated the scientific efforts the Coast Guard’s Research and Development Center delivered, it overwhelmingly concurred that proper crew manning levels were a necessary prerequisite. Pertinent selections from the sub-committee’s document(1) follow: [STW 34/WP.6]

“10.2 The United States... expressed the view that prior to developing mandatory requirements for training, there was a need to first establish guidelines to be implemented on a voluntary basis. The United States therefore proposed the development of a model course and outlined the basic topics for inclusion in such a course. The United States also drew attention to its Crew Alertness Campaign and its non-regulatory approach for managing factors affecting crew alertness in its guide Crew Endurance Management Practice...”

[NMA Comment: Although it was a “work-in-progress, the USCG Model Course did not address the widespread problem of hours-of-service abuse by many companies operating limited tonnage vessels since it would reflect poorly on their enforcement activities at an international forum. However, the International Transport Workers Federation (ITF) is well informed about the conditions our limited-tonnage mariners face.]

“10.4 The Sub-Committee agreed that it was premature to develop mandatory education and training requirements and that training in fatigue management should be addressed through voluntary guidance rather than mandatory requirements. A number of delegations expressed their appreciation for the information provided by the United States on the Crew Endurance Program and acknowledged the potential value of training as one part of a comprehensive approach to minimizing the problem of fatigue. Many delegations, however, stated that the more important methods for combating fatigue are responsible manning levels and work-hour restrictions under both international and national requirements.

[NMA Comment: The IMO took the lead in raising the weekly “hours of rest” from 70 to 77 and requiring adequate recordkeeping in the Manila Amendments to STCW starting in January 2012.]

NMA Commented on the Coast Guard’s 2003 Crew Endurance Study

The Coast Guard report titled Crew Endurance Management Practices was presented in London in February 2003, and we received our copy from an international observer and made these specific points on this report:

1. The report, according to the Coast Guard presentation was based on “…vessels graciously made available to us by our partners and colleagues in the Inland Towing Industry.” (p.xxi).

[NMA Comment: This was primarily a management project. Most mariners working for the inland towing companies are “at will” employees and can express their opinions only at the peril of losing their jobs.]

2. The Coast Guard report refers repeatedly to the towing vessel’s “First Mate.” This term incorrectly suggests that inland towing vessels in general have more than one mate/pilot. (p.8 +)
[NMA Comment: We seriously doubt that the authors of this Coast Guard report served aboard or even rode on American-flag towing vessels.]

3. The Working Group correctly identified that the current watch schedule did not allow crewmembers sufficient opportunity to obtain the 7-8 hours of daily uninterrupted sleep required to maintain endurance. (p.17)

[NMA Comment: Existing research in Chapter 3 (above) conclusively shows that the existing 6&6 work schedule cannot possibly meet the basic criteria of allowing 7 to 8 hours of uninterrupted sleep.]

4. “Coast Guard regulations determine the maximum number of work hours per 24-hour day.”

[NMA Comment: This statement is true only for licensed officers. It is not true for unlicensed deck and engine watchstanders. We reiterate that the Coast Guard failed to acknowledge that hours-of-service regulations are widely abused and that the Marine Safety Directorate rarely enforces them on either inspected or uninspected vessels unless an accident forces an investigator to do so.]

5. “Individual Choices” – Crewmembers were...staying up to make lengthy phone calls. (p.17). “Making shipboard phone use available, or providing shipboard internet and e-mail access, can easily boost morale as crewmembers realize the company’s interest in their mental and emotional well being. It can also help crewmembers communicate more with their families.” (p.61)

[NMA Comment: An Australian study on fatigue states in part: “All groups reported a similar level of stress from missing home. This finding was supported by miscellaneous comments pointing out that stress levels at sea increased when family members were ill, particularly if telephone contact was difficult.” These findings are consistent with findings in offshore industries that indicated that separation from family and home was the most significant factor contributing to occupational stress in offshore industries (Sutherland & Flin, 1989). They are also consistent with Coast Guard Commandant Instructions as follows: “Isolation from Family. The uncertainty of what is happening to family members, and the inability to be present to comfort or support their activities, is one of the greatest sources of stress for some individuals. Efforts to improve or maintain contact with family (by e-mail or telephone) have been shown to reduce stress and improve performance”. [1] Parker, A.W., Hubinger, L.M., Green, S. A Survey of the Health, Stress, and Fatigue of Australian Seamen, http://www.amsa.gov.au/SP/Fastoh/index.htm [2] COMDTINST 3500.2, Crew Endurance Management, 30 Mar. 2006, p. 5.]

[NMA Comment: The report, by citing phone calls as matters of “individual choices,” shows insensitivity. Many mariners are family breadwinners with family responsibilities too important to leave to chance. Such calls may be as necessary and important to a mariner as either work or sleep.]

[NMA Comment. A number of lawsuits brought by injured mariners reinforce our belief that few employers show an overriding interest in ensuring their mariners’ mental and emotional well being unless it directly affects the company’s “bottom line.”[1] [1] Refer to NMA Report #R-202, Rev. 5.]

6. “Vessel environment” – The report does not mention smoking in confined accommodation spaces and air recirculation by the HVAC system as well as its deleterious effects upon health of all persons on the vessel. This is in direct contrast to Coast Guard policies on their own vessels that do not allow smoking in the accommodation spaces.[1] [1] Refer to NMA Report #R-341, Rev. 4. In NMA Report #R-350, Rev. 6 we asked Congress look into the health issue of smoking on board.]

The “New Shipboard Policies” (p.22) should include a no-smoking policy. We suggest that this scientific aspect needs further study. (p.18).

[NMA Comment: Our Association asked for Congressional assistance[1] on this important health issue.]

[1] Refer to NMA Reports #R-350, Rev. 6, Issue “S”; #R-341, Rev. 4; and #R-341-A – Surgeon General’s Report.]

7. “If unable to obtain 7-8 hours of sleep per 24-hour period, crewmembers should have enough time off to obtain at least 6½ hours of uninterrupted sleep, as well as a nap of no less than two hours per 24-hour period.” (p.19)
[NMA Comment: USCG research shows that a 6-on/6-off schedule does not allow 7 to 8 hours of uninterrupted sleep. We ask that further use of the 6-on/6-off watch schedule should be banned. The Marine Safety Directorate must stop short-changing working mariners to protect business interests from justifiable expenses of adequately manning their vessels.]

8. “Work periods should be no longer than eight continuous hours, particularly when prolonged exposures to extreme temperature or humidity levels.” (p.20)

[NMA Comment: The AWO Responsible Carrier Program states in part: “All other crewmembers on a towing vessel should be permitted to work no more than 15 hours in any 24-hour period or more than 42 hours in a 72-hour period, except in an emergency.” We assert that a 99 to 105-hour workweek is unconscionable especially in light of the 2012 Manila amendments to STCW that now mandate 77 hours of weekly rest as opposed to 70 hours of rest in the past.]

9. “Out-of-schedule meals will be allowed provided they do not interfere with the cook’s schedule.” (p.21) “Adapt the mess services to accommodate crewmember needs. This accommodation supports both safety and crew morale.” (p.45)

[NMA Comment: It appears the authors of the Coast Guard report were assigned to a towing vessel with a cook. Most towing vessels and OSVs in 24-hour service no longer have cooks. The realities of the time it takes to prepare a meal from scratch and to eat that meal as well as the quality of food preparation and diet were not adequately addressed for those vessels that do not have a cook. One of the major inland towing companies that implemented Crew Endurance Management in 2002 recently fired all its cooks.]

“Modify the daily menu so that meals are balanced, offering plenty of fresh vegetables and fruits... etc, etc.

[NMA Comment: Any cook, needs to be trained to plan nutritious meals as well as cook them.\(^{(1)}\)\(^{(1)}\) Refer to NMA Report #R-455, Rev. 3.]

“Because the head cook is likely to be considered unbiased in being outside the chain of command...” (p.68).

[NMA Comment: The Coast Guard report added a second non-existent cook. The authors of the report must have been very well fed on short visit to this towboat. “Chains of command “on most towboats are as short as are cooks!”]

10. Proposed new watch policies: “On-watch napping will be used to supplement, not substitute for, normal off-watch sleep periods. On-watch napping will be limited to approximately one-half hour per crewmember per night.” (pgs. 21, 22)

[NMA Comment: Our Association asserts that there should be two persons on watch whenever any inspected vessel is underway. We ask: Where is this “napping” in lieu of sleep supposed to take place?] 11. “Physical changes (p.22-24) on vessels as explained at various advisory committee meetings.”

[NMA Comment: The changes as explained in the report do make sense.]

12. Training the crew: “A USCG CEM team trained the crew of the example vessel in sleep and body-clock management, stress management, time management, and other crew-endurance practices during a day-and-a-half workshop. (p.25)

[NMA Comment: Our Association encourages training in the scientific principles underlying CEMS because they have value especially in true emergencies.]
13. “Caution! Crewmember buy-in is as critical to the success of a CEM program as is management buy-in. No buy-in, no success.”

[NMA Comment: Although the CEMS program has much to offer, it is hard to expect crewmembers buy-in on vessels that are not adequately manned or equipped for CEMS and in companies where there is perceived hours-of-service abuse.]

14. “Crewmembers who used light management consistently slept 5 to 6 hours daily, showed hormone (melatonin) levels typical of a well-adapted body clock, and experienced minimal lapses in alertness during the work hours following a long off-period.” (p.27)

[NMA Comment: Why is the 5 to 6 hours of sleep cited here a substitute for the baseline 7 to 8 hours normally required as mentioned in COMDTINST 3500.2? The Coast Guard itself points out that insufficient daily sleep is one of seven core risk factors!]

15. “Water. There is no substitute.” (p.27)

[NMA Comment: The authors do not appear to be aware that many towing vessels and OSVs have a serious problem with the quality of their on-board potable water. In 2004 Congress required the Coast Guard(1) to address this problem – something that they still have neglected to do.] [1] Refer to NMA Report #R-395, Rev. 3 and Docket #USCG-2003-14325.]

16. “Maladaptation to shift work schedules and lack of energy-restoration sleep can result in persistent sleepiness, low energy, lack of motivation, and depression; in performance degradation during duty hours; and in increased safety risk. Other health effects such as increased incidence of cardiovascular disease, gastrointestinal disorders, and sleep disorders have been historically documented in populations subjected to shift work maladaptation. The combined effects of disrupted sleep and biological clock disorganization can lead to endurance degradation, jet-lag symptoms, irritability, depression, and, in extreme cases, psychosis.” (pgs.44, 45)

[NMA Comment: Mariners will be grateful for this information that confirms some of the problems associated with the lifestyle they face on many limited tonnage vessels. Unfortunately, the mariners the report deals with cannot assimilate much of the technical language in this report.]

17. “Management Nugget: Avoid allowing personnel to work more than 12 hours in a 24-hour period. Count these 24 hours from the time crewmembers wake up from their longest daily sleep period (not naps).” (p.45)

[NMA Comment: This “nugget” is well directed at management – especially since the AWO, reportedly representing 80% of the towing industry, finds nothing wrong with the 15-hour work day. However, this incorrectly assumes that one of the vessel’s officers can or will keep track of where each crewmember is and how well or how long that crewmember sleeps. More germane to the issue would be counting the number of hours a mariner actually works in a 24-hour period. In this regard, a time clock or time sheet kept in the pilothouse would be a useful crew management tool to provide important data about how often sleep patterns are interrupted. Since there is no “overtime” pay in the industry, there is no incentive to keep such records. This, in turn, perpetuates hours-of-service abuses.]

[NMA Comment: COMDTINST 3500.2 (p.3) states: “Long Work Days. Human performance begins to decrease approximately 12 hours after one arises from sleep. After approximately 14 hours of wakefulness, individuals perform at levels compared to someone with a blood alcohol concentration (BAC) of .05. After approximately 26 hours of wakefulness, individuals perform at levels compared to someone with a BAC of .10. These performance levels will vary as the type of task, environmental conditions and history of the individual.” For comparison, USCG regulations at 33 CFR §95.020(b) forbid operating a commercial vessel with a Blood Alcohol Concentration (BAC) greater than .04 percent.]
“Encourage department chiefs to manage overtime work ensuring that all crewmembers will have the opportunity to work overtime without disrupting their rest periods.” (p.72)

[NMA Comment: Department Chiefs? Overtime? What part of the marine industry are they talking about? Certainly not the one inhabited by our limited-tonnage mariners.]

18. “Allow crewmembers in any watch ending in the morning hours to retire prior to sunrise, and to sleep at least seven to eight hours free of noise with absolutely no interruptions. Overtime should be scheduled to occur after wake-up time (e.g., from 1400-1800).” (p.46)

[NMA Comment: Sounds like heaven rather than the real world. “Overtime” is rare on these vessels and, for licensed officers, is illegal if it requires working beyond 12-hours in any 24-hour period.]

19. “A second approach to reducing endurance degradation in the Midnight Watch is to allow one watch section to work most of the night by extending the watch duration to five or six hours....” (p.46)

[NMA Comment: In the 6 & 6 watch schedule the watch is already six hours. The authors must have lost track of the vessels they were working with or confused it with an earlier “deep sea” report where normal watchstanding is on a 4-hour on, 8-off duty basis with paid overtime work.]

20. “If at all possible, crewmembers receiving motion sickness medication, or who are experiencing severe symptoms, should avoid shipboard work environments. It is strongly recommended that a medical officer closely supervise crewmembers using medications for motion sickness. Self-administration is strongly discouraged.” (p.58)

[NMA Comment: Seasickness is not common on towing vessels on inland and river routes. Tugs and OSVs working offshore do not carry “medical officers.” The widespread incidence of seasickness is one reason why offshore vessels must be adequately manned.]

[NMA Comment: If “self-administration is strongly discouraged,” who do the authors think normally hands out medications on towing vessels that are not even required by regulation to carry a first aid kit?]

21. “Management style: (p.59)
• Authoritative Management style.
• Lack of participation by workers in decision making.
• Poor communication between management and employees.
• Ambiguity or conflicting requirements.
• Lack of family-friendly policies.

“These factors tend to induce physiological responses, such as elevated pulse rate and blood pressure that use up energy even during rest periods.”

[NMA Comment. Concur.]

22. “Without management support, individual crewmembers cannot effectively implement endurance management practices.” (p.68)

[NMA Comment: Concur. It is reasonable to ask why the Coast Guard consistently ignored the abuses of existing laws and statutes in preparing this report? Do they believe those companies who profited by abusing the system will change their stripes? By making public a report like this, the Coast Guard lost the trust and confidence of many limited tonnage mariners. The Marine Safety Directorate consistently failed to enforce compliance from companies that violated the 12-hour rule for licensed officers and totally ignored hours of service abuses of unlicensed mariners.]

23. “Individual choices, for example watching TV during a sleep period, can affect stamina and alertness.” (p.71)
[NMA Comment: Concur. The report mentions on-board recreation but leaves it up to the mariner to find the time for it. Comments like this would discourage mariners from watching TV because they could be criticized for doing so instead of sleeping. Mariners, already pushed for time, resent having every moment of their time filled with duties. Adequate time for recreation is essential.]

24. “Caution! Experience has demonstrated that it is not sufficient to simply change a watch schedule from a 6-6-6-6 regimen to an alternative regimen such as 7-7-5-5 or 5-7-7-5.” (p.76)

[NMA Comment. Many mariners view the 7-7-5-5 alternative as an attempt on the part of the Coast Guard to show that employers possibly could squeeze 7 hours of sleep out of a 24-hour day for sleep. In fact, when shift changes, showering and eating were considered, only 6 hours at best is available to a mariner to even attempt to sleep.]

25. “Management Nugget: Successful implementation of a CEM plan to improve endurance requires an aggressive education program designed to instruct company managers, vessel captains, all levels of vessel management, and crew personnel on the science and practices of crew endurance management.” (p.77)

[NMA Comment: The thought of being “aggressively educated” may not appeal to unlicensed personnel. Adequately manning the vessel is more appealing as a first step to make work on the water more appealing and to end practices like “call watches” and constant call-outs for phony “emergencies” that are nothing more than inadequate manning and poor planning. We ask Congress to consider requiring a third licensed officer on vessels in 24-hour service regardless of the length of the voyage and full crews and trained lookouts available on each watch.]

Congress Authorized New Hours-of-Service Regulations in Sept.2004, but Where Are They?

Congressional committees in the House and Senate closely monitored many of the events we reported (above), especially NTSB Recommendation M-99-1 and especially after the towing vessel accident that destroyed the Interstate 40 bridge at Webbers Falls, OK, in late May 2002 taking the lives of 14 innocent victims and damages in excess of $30,000,000.

Although the NTSB report did not mention it, a separate Coast Guard investigation determined that the Master of the towboat had violated the existing 12-hour rule. Members of TSAC in a meeting at Coast Guard Headquarters hotly contested this allegation until Marine Safety Directorate staff members retrieved the Coast Guard accident report and distributed copies to all in attendance. [1]

Congress knew that the Coast Guard was in the process of studying “Crew Endurance” and had initiated a “Demonstration Project” with towing vessels owned and operated by AWO member companies. Consequently, in September 2004, Congress directed the Coast Guard to submit a report on this “Demonstration Project.”

The following statement appeared in the “Joint Explanatory Statement of the Committee of Conference”[1] that worked out differences between the House and Senate bills: “The Conferees expect that the Secretary of DHS will carefully evaluate the results of the (CEMS) Demonstration Project prior to determining the need to establish maximum hours of service regulations as permitted under subsection (a). Prior to promulgating any such regulations, the Conferees also expect that the Secretary will evaluate the costs and benefits of establishing maximum hours of service requirements on towing vessels. This review should include a review of Coast Guard casualty data to determine whether there is statistical evidence to support the need for new hours of service regulations.” [1]ibid p.82.

At the same time, Congress granted the Coast Guard the authority[1] to: “…prescribe by regulation requirements for maximum hours of service (including recording and recordkeeping of that service) of individuals engaged on a towing vessel…” [1]46 U.S. Code §8904(c)]

Our Association’s Position on CEMS

Our Association followed the progress of the Crew Endurance Management Systems project and continues to support the scientific findings of the Coast Guard study. We accept the fact that the Coast Guard is the primary

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source of information about proper crew endurance management and that they instituted their own CEMS program for use aboard their own vessels.\(^{(1)}\) [\[^{(1)}\text{COMDTINST M-3500.2}\] We believe that training based upon the scientific findings will provide benefits to mariners who may be expected to perform additional duties if another member of the crew is incapacitated for any reason or in a true emergency. However, our Association does not support CEMS as a substitute for full and safe manning of any vessel or for allowing any commercial vessel to “sail short”\(^{(1)}\) in any case other than a bona fide emergency. [\[^{(1)}\text{46 U.S. Code §8101(e); 46 CFR §15.725.}\] We support re-evaluating the safety and health aspects of the existing two-watch system on all inspected vessels manned by our limited tonnage mariners in terms of the scientific findings reported in the Coast Guard’s Demonstration Project and other sleep and fatigue-related literature provided to us by Marine Safety Directorate officials during an earlier study by NOSAC.\(^{(1)}\) However, we are disappointed that this was not accomplished during the seven years before the Marine Safety Directorate published the NPRM for towing vessel inspection in August 2011. [\[^{(1)}\text{Refer to NMA File# A-772.}\]]

Example of a Mandatory Corporate Crew Endurance Management System

Our Association received a copy of the following company directive from a mariner employed by American Commercial Barge Lines (below). The CEMS report submitted by the Coast Guard to Congress in December 2005 showed that four ACBL vessels out of their reported fleet of 64 Western Rivers and inland towing vessels\(^{(1)}\) participated in the “voluntary” demonstration program. From this beginning, the company subsequently decided to make their CEMS program mandatory within the company. Verbal reports from several of our mariners indicated there was an overwhelming resentment of the mandatory nature of the program. [\[^{(1)}\text{CEMS Report, p. 12. NMA Note: The 2005 edition of the Inland River Record lists 104 vessels owned by ACBL.}\]

Document #1 – ACBL Corporate CEMS Policy

New Policy for Immediate Implementation and Posting ACBL Crew Endurance Management System

Introducing the ACBL Twelve Step Process for CEMS Program Implementation Onboard All Company River, Gulf and Live-on Fleet Vessels

The ACBL Transportation Services group is committed to full implementation of the United States Coast Guard’s Crew Endurance Management System (CEMS) and participation by all vessels as outlined in this document is mandatory.

Crew endurance refers to the ability to maintain performance within safety limits while enduring the job-related physiological, psychological, and environmental challenges present in the workplace. The Crew Endurance Management System was developed to manage the endurance-related risk factors that can reduce human performance and lead to competent error. This initial six-step process will allow us to establish a fleet wide common mental model and represents the core program standards that will guide all company vessels down a final common path (six additional steps will be used at a later date resulting in 12 steps total) leading to full CEMS program implementation by 2006 year’s end.

The procedural differences as outlined in this, the first of two (2) six-step plans, are generally representative of changes to historical watchstanding methods, company policies and procedures. Most of these changes are cultural in nature relating to how watchstanders in all positions conduct themselves while in service aboard company vessels. Personal self-discipline within the scope of the CEMS plan guides crewmembers in all positions through risk based decision making processes instead of using the inflexible culturally based rules, policies and procedures inherited from traditional watchstanders of days gone by. Crewmembers in all positions must execute these changes in policy to safely increase productivity by improving our endurance through better risk based vessel voyage and watch planning, crew resource management, and all critical job task planning processes.

The CEMS program is one of the required human factor based safety management systems that must be in place for regulatory compliance as our industry prepares for the transition to USCG inspected vessel status. The time has come now to implement and execute the ACBL six-step plan based upon our CEMS knowledge obtained from the awareness and coaches’ education program that have been conducted system wide for vessel employees. Remember the Crew Endurance Management System Goal is to reduce the risk of maritime casualties and personal injury accidents by addressing and reducing the occurrence of endurance-related, risk factors in the workplace and to improve the overall quality of life onboard the vessels.

The CEMS program at ACBL is just one of the key drivers in our corporation’s relentless pursuit of operational
excellence through flawless execution that will enable us to attain and sustain the market leadership position that we desire as a new and innovative marine transportation company and will be one of the key points on our compass guiding us forward into the future.

The Initial Six (6) Mandatory Key CEMS Policies for Immediate Implementation

[NMA Note: This list expands upon “policies” listed in the CEMS Report, p.61.]

1. Common Courtesy Policy

   The opportunity for crewmembers to sleep uninterrupted while off watch as much as possible is an important factor in optimizing the crew’s endurance. Crews in the past have always been aware of the possibility that normal work activities being conducted may in fact be disturbing to others trying to sleep. The intent of this mandatory policy is to bring an even greater level of awareness to the fact that other members of the crew are sleeping and to identify the risk factors that can be managed to improve the chances for off watch employees in all positions to have more opportunities to benefit from longer periods of uninterrupted sleep.

   ● The causal factors of all interruptions to sleep should be documented by all crewmembers and discussed at the regular vessel safety meetings. The onboard CEMS coach or an awareness level (your vessel safety representative) designated employee should take the lead in this documentation process.

   ● Realistic onboard fixes will be developed by crewmembers and put into place to address all risks to sleep fragmentation identified through the risk assessment process.

   ● Any causal factors of sleep fragmentation that cannot be addressed by the crew onboard will be forwarded to the CEMS program manager for action as appropriate.

   ● All normal vessel chores such as sooging, cleanup, tow work, etc. will be planned with the potential for fragmentation to off-watch crewmembers’ sleep as a risk factor that must be minimized in the planning process.

   ● On vessels, where the stateroom configuration allows the front watch to all sleep on the same side of the vessel, the back watch crew should then all sleep on the other side of the vessel. (This is to allow normal activities like sooging to be planned and conducted in a more courteous manner.)

   ● Rough handling of equipment should be avoided. This would include the boat, rigging, tools, mops, buckets, and any other equipment that produces noise.

   ● Wheelman will actively avoid rapid changes in throttle settings whenever practicable and not required for safety.

   ● Avoid making loud noises in the vicinity of the boat. Examples include yelling, slamming rigging and deck tools, unnecessary blowing of the boat’s whistle, slamming doors or hatch covers in or near the vessel.

   ● Entertainment devices such as televisions, video games, and radios should be played at a moderate volume and only where the risk of sleep disruption to off-watch crewmembers is not present.

   ● All vessels will strictly adhere to and enforce the courtesy policy as outlined above at all times. Abuse of this policy will be handled as a disciplinary matter (violation of company policy) through the normal disciplinary process.

   Every crewmember should be made aware that there are times when someone is going to have to make some noise. Sounding a warning, watch the bump, blowing the danger signal in the wheelhouse, all must be done without hesitation when safety or regulations are involved. In some situations, we have to work the vessel harder than we would like. Necessary repairs, boat maintenance, etc. may produce noises that we would rather do without, but in those cases we must endure. Working as a team, we can develop new ways of safely doing our jobs that take into account our crewmembers that are trying to catch some quality shut eye off-watch optimizing everyone’s opportunity for improved endurance.

2. On Watch Rest Policy

   ● All vessels will follow the mandatory On-Watch Rest Policy for deck crewmembers, and On-Watch Rest will be encouraged and allowed onboard all ACBL vessels in compliance with the following list of standards.

   ● An On-Watch Rest period is not guaranteed.

   ● No On-Watch rest period will be permitted until all normal watchstanding duties have been completed.

   ● On-Watch Rest will be approved by the wheelman standing the watch prior to the rest period being started.

   ● No On-Watch Rest period will be allowed during tow-building, locking operations, and port occurrences.

   ● The normal period for On-Watch Rest will be from 2300 hours until one hour prior to scheduled watch change. Allowances for daylight on-watch rest may be made under special circumstances (exceptionally strenuous or lengthy duties) as needed to be determined by the wheelman standing watch under the prevailing circumstances.

   ● On-Watch Rest periods will not be allowed when only one deck crewmember is on watch.
• On-Watch Rest is limited to 30 minutes per crewmember per day.
• Only one crewmember may take their approved on watch rest period at a time.
• Wheelman and remaining deck crew must know where the resting crewmember is located in a vessel common area and the resting crewmember must not leave the area unless they notify the crewmembers standing the watch in case they are needed. You are still on watch.
• Wheelhouse officers can, at anytime, but only temporarily suspend the On-Watch Rest periods under a special circumstance to ensure the safety of the vessel.
• On-watch deck crew rest periods are used to supplement, not substitute for the watch stander’s normal off watch main sleep period.
• Any abuse of this mandatory policy by employees will be a violation of company policy, and it will be handled as such through the normal disciplinary process.

3. Early Meals Policy
• The early meal policy is mandatory and early meals on watch will be allowed and encouraged on all ACBL vessels in strict compliance with the guidelines that follow and when the prevailing operational circumstances allow.
• An early meal is not guaranteed.
• Meal times will be posted to avoid confusion, and they will be from one-half hour before until one-half hour after the scheduled watch change times.
• Early meals will not be allowed for on watch personnel during locking, tow building, port occurrence operations or when all regular watchstanding duties have not been completed.
• You may eat your meal anytime during posted meal times when early meals have been approved.
• Crewmembers coming on watch will have priority seating at meal times.
• Pilothouse or senior lead must approve on watch meals before meals are started. (This is to ensure all watch duties are completed so the crewmember eating early is less likely to be disturbed during their meal).
• If you are still on watch, you must respond by returning to duty if having an early meal and you are needed.
• Wheelhouse officers on duty may at anytime temporarily suspend the early meals policy if special circumstances dictate this for the safety of the vessel.
• Any abuse of this policy will be treated as a disciplinary matter (violation of policy) through the normal ACBL disciplinary process.

4 Early Showers on Watch Policy
• This policy is mandatory and all vessels will allow and encourage Early Showers on watch in compliance with these specific guidelines.
• An Early Shower is not guaranteed.
• On-watch showering must not interfere with those coming on watch.
• Early showers will not be allowed during locking, tow building, or other port occurrence operations.
• Early Showers may only be approved after all normal watchstanding activities and work duties have been completed and must be approved by the wheelhouse or a senior lead (with knowledge of the wheelhouse) prior to start of the shower.
• Employees must take turns with only one On-Watch employee being allowed to shower at a time. Showers must be limited to 15 minutes.
• Crewmembers are not allowed to enter a stateroom for the purpose of an early shower if that could disrupt the sleep of another employee off watch.
• On a non-engineered vessel or any other vessel with only one deckhand on watch, early showers will not be allowed.
• Wheelhouse officers may suspend the early showers policy under a special circumstance temporarily to ensure the safety of the vessel at anytime.
• Abuse of this policy will be treated as a disciplinary matter (violation of company policy) and normal disciplinary practices will be followed.

5 Re-schedule Watch Change Time Policy.
• This is a mandatory practice and policy change that will be followed onboard all ACBL vessels.
• Remain on your present watch schedule (example 6 & 6) and, if you serve on one of a few select company vessels that have already changed to an alternate watch cycle, (Example: 7-7-5-5), remain on that watch change cycle.
The first element of CEMS based light management is to properly adjust the body’s biological clock and light is the instrument used to make this adjustment.

If you have not already done so roll your watch change times back to allow wheelman and crewmembers in all other positions working the back or aft watch to be able to get in bed prior to seeing daylight in the morning.

Watch change times will need to be varied based upon your geographical area and the time of year to guarantee that the back watch is off and in bed before seeing sunlight.

It is the responsibility of all crewmembers working the back watch to exercise personal discipline and get in bed as soon as possible and treat the morning off-watch as their principal long sleep period.

This example when implemented will put you in compliance on 6 & 6 watches.

Forward Watch: Wake up call @ 0500 or as requested.
0530 — 1130 stand watch 6-hour shift.
Forward Watch: Wake up call @ 1700 or as requested.
1730 – 2330 stand watch 6-hour shift.
Aft Watch: Wake up call @ 1100 or as requested.
1130 – 1730 stand watch 6-hour shift,
Aft Watch: Wake up call @ 2300 or as requested.
2330 – 0530 stand watch 6-hour shift.

Call Watch: Wake-up call at times as appropriate based upon the specific work skills needed for the voyage plan. The employee serving on the call watch shall be managed so as to be fit for duty and adequately rested when called upon. The call watch must have had at least one opportunity for a minimum of six hours of uninterrupted sleep after 12 hours on watch during the 24 hour day midnight to midnight (calendar day) with total duty time not to exceed 15 hours per calendar day except in a documented emergency. The focus of the call watch position when not needed is to get adequate rest so when called upon to use their needed specialty skills the call watchman can do so safely and effectively.

Meal times will be one-half hour before until one-half hour after the 0530, 1300 and 1730 watch change times.

When you implement this change you may come in conflict with the 12-hour rule as a wheelman for one watch when you make the change. This is acceptable as a special circumstance necessary to implement a USCG approved safety management system program onboard our vessels.

Any overtime required by hourly employees to implement this plan should be paid in the normal manner.

6 Continuous Feedback Policy

Survey your employees seven to ten days after fully implementing these six steps as to whether or not they are sleeping better and monthly thereafter. Document any factors that are causing disruptions and fragmentation to their sleep and report any that can not be managed onboard to the CEMS program manager, Kenneth Davidson, by e-mail or phone at 800-457-6377 Ext# 2528

Utilize all crewmembers aboard who have had coaches or awareness training to help in the implementation and ongoing assessment of this program onboard the vessel you are serving.

Begin full implementation of these six steps to CEMS immediately upon receipt, realizing that it may take up to four days to complete based upon the operational prevailing circumstances of the vessel you are serving on.

Notify the program manager by e-mail when these six steps have been implemented onboard the vessel you are serving.

If you have any questions concerning the proper implementation and execution of these six steps to CEMS please contact the program manager Kenneth Davidson or your Marine Superintendent for additional information.

Thank you all for your support in the drive for operational excellence.

s/Ken Davidson, General Manager ACL Wellness, Vessel Safety and Training.

CEMS Connects Food Service and Crew Endurance

In 2004, Congress directed the Coast Guard\(^1\) to report on the results of a demonstration project involving the implementation of the Crew Endurance Management System (CEMS) on towing vessels. That report was released to Congress on Mar. 29, 2006.\(^2\) \[^{18}409\text{ of the Coast Guard Authorization Act of 2004.}^{(2)}\text{Reprinted as NMA Report}\ #R-401-D.\]
Diet is a factor that can strongly affect a crew's health and endurance. Unfortunately, shift workers have a tendency to eat poorly. Night shift workers, in particular, are prone to weight gain and bad eating habits.\(^{146}\)

Despite the “kick” it gives people, caffeine can have detrimental effects on performance. Anyone who drinks more than three cups (24 oz) of coffee per day will find that caffeine continues to prevent sleep at bedtime, shortening their total amount of sleep time. When caffeine keeps people awake, it also reduces the time they would spend in REM sleep, the most important sleep cycle for learning ability, memory, and performance. Excessive caffeine impairs iron absorption and causes the body to lose calcium, magnesium, and B vitamins.\(^{159}\) Finally, too much caffeine can cause dehydration. which is particularly bad when towing vessels are in an extreme climate, or if an individual on the towing vessel is seasick.

Consuming fatty foods also influences diet and performance negatively. Though fats do provide energy and serve other important functions for the body, Americans need to reduce the amount they consume.\(^{151}\) Excessive fat intake causes obesity, cardiovascular disease, impaired work performance, and heartburn.\(^{154}\)

To support endurance and alertness, experts recommend a diet of high-protein, low-fat foods and well-chosen carbohydrates. Protein contains nitrogen, which helps repair and build tissue for all bodily functions. Nitrogen also provides nutrients to help endure stress.\(^{155}\) Protein is also a source of amino acids, which are essentially responsible for cell regeneration.\(^{156}\) These acids help run the brain: the neurotransmitters that they help build regulate cognitive and mental performance, as well as emotional states and pain response. Carbohydrates provide fiber, an essential nutrient that decreases risk of coronary heart disease.\(^{159}\) Fruits and vegetables are common sources of carbohydrates and contain vitamins, minerals, and other essential nutrients.\(^{160}\)

Adequate hydration is also necessary to keep the body functioning properly. Water, which makes up a majority of living tissue, supports the health of all body systems, cushions the body’s joints, fights environmental stressors, and carries oxygen to the body’s cells.\(^{162}\) If people lose as little as three percent of their body weight as water, their physical performance starts to suffer. When water loss occurs, a person experiences severe physical stress, mental stress, and performance degradation. Water is essential for the body’s cooling and heating systems, enhancing endurance, particularly in extreme climates. Moreover, water provides energy for thinking and it may expand the attention span. Finally, drinking water reduces fatigue.\(^{164}\) Water is the only beverage that will promote endurance by carrying nutrients to the body’s cells and dissolving them, making them accessible for the body's use.\(^{165}\)

Besides knowing what to consume and what to avoid, the timing of meals is also important. Crewmembers should consume high amounts of protein at the beginning of a work shift to obtain the energy and amino acids necessary to do their work, stay alert, and make good decisions. After the first meal of the day, shift workers are better off eating lighter meals or snacks to decrease the risk of obesity and prevent digestive problems. Because bodies operate on a circadian rhythm, digestive systems that are not fully entrained to a night shift will more easily digest smaller meals than larger ones during the late-night to early-morning hours.\(^{170, 171}\) It is also important to eat very little before sleeping, so as not to impede sleep.\(^{172}\)

For the purpose of the demonstration project, crewmembers were asked how many days per week they experienced a poor diet. We defined this as the consumption of foods that are fried, high in fat, or high in sugar content. We also asked them about their caffeine and water intake.

In the deep-sea, blue-water merchant marine, cooks are part of the crew. However, this is more not the case on most “smaller” vessels manned by our limited-tonnage mariners. The CEMS report brought to the attention of Congress the importance of food service to the maintenance of crew endurance and health in scientific terms. \textit{CEMS not only has application to the Merchant Marine but also to the Coast Guard's own personnel both ashore and afloat}.\(^{17}\) Since our mariners and Coast Guard personnel have the same human needs, we believe that
each group, military and civilian deserve the same consideration by Congress – no more, and certainly no less. [1]

Our Mariners View Food Service Issues [1]

One of the loudest and most consistent complaints our mariners voice is when the company they work for decides to remove the cook (i.e., “steward”) from their boat in an effort to cut expenses. We can summarize the results of removing the cook from a vessel in 24-hour service as follows:

• Ship’s officers often must take up the slack and cook the meals or assign this duty to crewmembers in addition to their other duty assignments.
• Snacks and snacking often replaces regular meals prepared at set hours. This disrupts the routines established by officers on a well ordered vessel and often replaces “sit-down” hot meals where the crew can get together, discuss important work issues, and socialize.
• Everyone has his/her hands in the refrigerator, freezer, and dry stores area. This is in contrast to the food and condiments inventory controls set in place when a cook is in charge of ordering groceries and preparing meals.
• Ships officers must prepare grocery orders on top of their other work. In many cases, they must also leave the vessel and “go shopping” ashore. The selection of groceries often concentrates on snacks and prepared foods that take little or no time to prepare and replace well-balanced hot meals.
• Without one person in charge of sanitation in the galley, cleanliness often becomes a secondary consideration.
• Management seldom shows concern for training deckhands, “deckineers” and unlicensed engineers in sanitary food preparation since these are often short-term employees. Often a cook/deckhand replaces the cook.
• Morale on the vessel plummets.
• Loss of a key benefit available from “diet” in a CEMS program as described above.

While this may be true, there is no law or regulation that requires a cook be assigned to any vessel. For example, on Coast Guard-inspected vessels, examine the vessel’s Certificate of Inspection and you will see no mention of a cook. Towing vessels do not even have a Certificate of Inspection to examine!

Well-run companies understand that a good cook can go a long way to keeping the crew contented and working together under very difficult conditions. A trained cook can provide meal planning services, order and check the quality of the groceries, and can lay out snacks for the crew on duty during the long night watches and periods of rigorous physical activity. When any given company realizes that a good cook improves the retention rate of its employees, and when this becomes more important to them than the cost of “an extra person” then cooks will return to the larger workboats.

For mariners who belong to a strong, well-established union, placing cooks back on workboats should become an important negotiating issue. Unfortunately, management vigorously campaigned against allowing our limited tonnage mariners to seek meaningful union representation in both the towing industry and the offshore oil industry.

The Coast Guard’s “Crew Endurance Management System” (CEMS) program, first used on Coast Guard cutters has a very large component that depends on maintaining an adequate diet. Having one person on board that can follow through on this program should be of increasing importance if the marine industry intends to take advantage of any benefits of this program may offer.

[NMA Comment: In light of the foregoing and after reviewing NMA Report #R-455, Rev. 4, we respectfully ask that Congress address the issue of requiring a trained cook assigned as an extra assigned crewmember on every inspected vessel in 24-hour service.]
DHS Inspector General’s Office Uncovers Serious Shortcomings in Coast Guard Investigations — Then Runs for Cover

The operative word in this Chapter’s title is “mis-management” because it best characterizes the Coast Guard’s long-term handling of thousands of maritime accident investigations.

Two major “bombshells” that seriously embarrassed the Marine Safety Directorate revolved around an in-depth report from the Department of Homeland Security Inspector General’s Office (DHS OIG) titled United States Coast Guard Management of the Marine Casualty Investigations Program. This report, followed by a subsequent investigation involving the M/V Cosco Busan’s allision with the San Francisco-Oakland Bay Bridge with a significant oil spill triggered a Congressional hearing that focused on an audit of weaknesses of Coast Guard accident investigations. [1] DHS OIG Report #OIG-08-51 was reprinted as NMA Report #R-429-M.

The initial request for a DHS investigation was made on Dec. 16, 2005 by both the Chairmen and Ranking Members of the House Transportation and Infrastructure Committee and the Senate Committee on Commerce, Science and Transportation in a truly bi-partisan manner. The requested report was delivered on May 9, 2008.

Our Association often requests copies of Coast Guard and NTSB marine casualty reports and is familiar with many of the problems revealed in the Inspector General’s report that was justifiably critical of the Coast Guard’s long-term, day to day performance of its casualty investigation and reporting duties. We were informed of the original Congressional request in 2005 and were contacted later by DHS OIG field auditors from the Boston office and contributed a significant amount of raw data to the auditors. [2] The Inspector General’s expressed concern stood in stark contrast to the Marine Safety Directorate’s habit of totally ignoring any input whatsoever from the nation’s 126,000 merchant mariners who are credentialed to man and operate vessels of up to 1,600 gross register tons. [2] Over 790 requests to date. [2] NMA provided 15 volumes of data to DHS OIG.

The House Transportation and Infrastructure Committee convened a hearing to discuss this topic on May 20, 2008, only 11 days after the report was released to them. Our Association previously reported on past problems with Coast Guard “Investigations” by reprinting and placing two landmark government reports on the Internet. [1] The “Casualty Investigations Program” is a critical part of the larger Coast Guard’s Marine Safety program – a program that the House of Representatives voted 395 to 7 to revise from the ground up in 2010. [1] Refer to NMA Reports #R-429-A, Rev. 1 and #R-429-B, Rev. 1

Although the shortcomings revealed in the May 2008 Inspector General’s report were shocking, the most shocking part of all it was that the Marine Safety Directorate ignored or failed to correct problems that were well known since 1994. These remarkable shortcomings appear to be a serious departure from the manner Congress expected the Coast Guard to handle casualty investigations.

Both the Inspector General’s report OIG-08-51 and the Marine Safety Directorate’s faulty investigation of the M/V Cosco Busan accident were subjects of discussion at the Congressional hearing. DHS Inspector General for Audits, Anne L. Richards reported to Congress as follows:

Example #1 – The Cosco Busan Congressional Hearing
[Source: Transcript from Hearing]

“Marine Casualty Investigation. The level of training, experience, and qualification of the marine casualty investigators assigned to the M/V Cosco Busan investigation was generally inadequate. Five of the six investigators did not meet the Coast Guard’s marine casualty investigation standards. This may account for the shortfalls in the marine casualty investigation. Specifically, the investigators did not immediately secure or collect potential evidence, such as the charts used by the bridge team, the vessel’s data recorder, or the shipboard navigational systems. While the voyage data recorder information was later recovered and used by investigators to recreate the vessel's track line before the mishap, the failure to independently test shipboard navigation and collision-avoidance systems as well as the radar beacons affixed to the bay bridge could prevent the Coast Guard and the National Transportation Safety Board from identifying all of the circumstances and conditions that led to the mishap.

“Coast Guard marine casualty investigators also did not ensure that all civilian and active duty Coast Guard personnel underwent drug and alcohol testing as authorized by Coast Guard policies and practices. Marine casualty
investigators assigned to this incident stated they were unaware of the policy to test VTS personnel on duty at the
time of the mishap.

“The investigators conducted breathalyzer testing of the M/V Cosco Busan's captain and bridge team but, with
the exception of the captain, failed to ensure that all persons on duty aboard the M/V Cosco Busan were drug and
alcohol tested within the required 32-hours following the mishap. To its credit, the Coast Guard immediately acted
to ensure the entire M/V Cosco Busan crew was tested as soon as the discrepancy was brought to their attention
and all tests were negative. The VTS watchstanders were never drug and alcohol tested. The Coast Guard's omission
of such tests, as well as the marine employer's lack of timely testing of the M/V Cosco Busan's crewmembers, may
prevent authorities from being able to rule out the use of drugs or alcohol as a contributing cause of the mishap.

“The lack of trained, experienced, and qualified marine casualty investigators at Sector San Francisco is a
major concern given that the Sector's area of responsibility and the volume, type, and size of vessels that transit
Bay area each year. Few people realize that Sector San Francisco's area of responsibility covers the coast out to 50
miles offshore from Point Sur north to Point Arena, all of San Francisco Bay, the Sacramento and San Joaquin river
deltas, and the states of Nevada and Utah, including Lake Tahoe. During FY 2007, the San Francisco VTS monitored
the movement of 124,762 vessels through this area. The training and qualifications of the investigators
assigned raise doubts about the quality of marine casualty investigations conducted by Sector San Francisco.”

In watching the progress of the hearing of this serious accident, tension between the NTSB and the Coast Guard
surfaced. Coast Guard failures were exposed, some identical to errors and omissions noted by the DHS OIG's
Coast Guard audit team that delivered the early report to Congress upon Congressional request. Despite a favorable
reception of the DHS OIG report as delivered by Assistant Inspector General Anne Richards, Ms. Richards
subsequently disbanded the Coast Guard audit team. That team had been a permanent standing team led by a
licensed senior Merchant Marine Officer, assisted by a retired Master Mariner who was also a Naval Reserve
Captain, and served by some naval and Coast Guard veterans with a Master Pilot slated for immediate transfer
into the unit. Ms. Richards reassigned to non-maritime related duties the head of the Coast Guard audit team,
turned the team's resident subject matter expert into a "management analyst" and assigned him non-maritime
duties, and refused to assign the newly arriving Master Pilot to the Coast Guard audit, all within days of the
delivery of the team’s well received investigative report of the Cosco Busan. Within about two years of the Cosco
Busan investigation, Ms. Richards had succeeded in forcing the retirement of both the Master Mariner and the
Master Pilot, and finished removing the last Coast Guard veteran from the audit. The Cosco Busan project
director has never been returned to maritime assignments.

[NMA Comment: The DHS OIG no longer has employees with sufficient technical background to audit
Coast Guard Marine Safety programs such as "Investigations." Added to this weakness is the fact that the
Coast Guard does not have its own Inspector General.]

Our Association has seen no improvement in Coast Guard investigations following the purge of the DHS OIG
audit team who understood the problems our mariners reported to them. We focus our attention on the 126,000
limited- tonnage mariners who serve on vessels of less than 1,600 tons.

“Tonnage” is a deceptive measurement that often downplays a vessel’s size, significance, and degree of
 sophistication that requires adequate manning. Tonnage is easily manipulated by naval architects so as to no longer
provide the framework for a meaningful and safe regulatory process. For example, although a large river tow may
push barges carrying 80,000 tons of cargo, the largest river towboat admeasures less than 1,600 tons. The old
“standard” 185-foot offshore supply vessels (OSV) are comparable in size to a river towboat but may admeasure
less than 100 gross register tons (GRT). A “small passenger vessel” may be of comparable size and carry 1,200
passengers yet admeasure less than 100 GRT.

The same Coast Guard “Investigators” that visited the M/V Cosco Busan accident site routinely investigate
other maritime accidents. Although they share some of the more serious investigations with the NTSB, the DHS
“investigation’s” report also shows that Marine Safety Investigators simply dumped 3,848 investigations (1) and
downgraded others for a variety of superficial reasons. Since 2008, the Coast Guard has made it so difficult to
obtain information under FOIA that our Association can no longer fulfill requests of our membership for
information on significant accidents. While the Coast Guard has provided a small number of in-depth and high
quality casualty reports since 2008, the quality of maritime accident reporting available to the public on the internet is pitiful. [1] Refer to NMA Report #R-429-M, p.16.]

Following the DHS revelations that the Coast Guard “dumped” 3,848 investigations and drastically changed their policies regarding responding to FOIA requests, we reviewed our “open” FOIA request files and compiled a list of approximately 35 open files the Marine Safety Directorate completed and posted on the internet. We reviewed each of the internet files and found that each one was unacceptably incomplete for our purposes. Most files we requested were for vessels of less than 1,600 GRT – our Association’s area of concern. We asked for full copies of each file as we previously had done so as to look further into the cause of these accidents.

The response to our FOIA request grouped all 35 accidents together and responded as follows:

“This letter is in response to your Freedom of Information Act (FOIA) request of Mar. 27, 2011, seeking information on each attached activity in the Marine Information for Safety and Law Enforcement (MISLE) database. Because the cost of providing this information is over $250.00 you must pay the cost for this information before we process your request. The cost of providing this information is $9,020.55. When making payment, your check, draft or money order should be made payable to the “Treasury of the United States” and sent to the following address…”

While our past FOIA requests were quite modest over a ten-year period and discussions with the FOIA staff after the file was complete allowed us to select the “investigative” documents we needed and avoid documents that were heavily redacted or otherwise useless such as copies of drug tests results and reports of undamaged barges. In other words, we did not want to put the FOIA staff through needlessly work and reduce reproduction costs to the barest minimum. While willing to pay for items we received, the price of $9020.55 representing on our part one-year’s work on accidents our mariners reported to us or asked about (to say nothing of sorting through reams of useless paper) effectively ended our access to Coast Guard accident reports beyond the unsatisfactory abbreviated materials already examined on the USCG internet website.

On Sept. 7, 2010, we explained our issues to the Chief, Office of Investigations and Analysis, Capt. M.P. Rand (CG-545). On Oct. 5, 2010 we receive this response from Capt. D.S. Fish who replaced Capt. Rand:

“As you have noted in your letter, the publication of Marine Safety Manual (MSM) – Volume V for Investigations in April 2008 represented a major step forward for the Marine Investigation program. In addition to improving the internal policies which affect when and how Coast Guard Investigating Officers (IOs) investigate and document case work, the Coast Guard has also taken steps to add personnel resources to ensure the right number of people with the right skill sets are available to handle the workload. As a result, the number of IOs in the field has doubled over the last 3 years and is projected to increase further. Staff billets have also been added to ensure that field units are dedicating the appropriate amount of effort to investigate cases and that case work meets the standards defined in MSM - Volume V. Overall, these efforts will improve the ability of the Coast Guard to investigate marine casualties, document their findings, and provide meaningful information and feedback to the customers of the Marine Investigations program.”

Perhaps doubling the workforce to perform the job they always were expected to do would be justified, but it is of little value to our Association. In many cases, our mariners who work on limited-tonnage vessels 24/7 report back to us facts that give some of these incidents a whole new meaning. If an investigation is supposed to provide meaningful information, why is it being suppressed?

[NMA Comment: We believe DHS OIG should take another look at USCG accident investigations with emphasis on two areas: 1) limited tonnage vessel casualties, and 2) the underreporting of personal injuries on these vessels as previously stressed to DHS in 2007-2008.]

Example #2 – The Webbers Falls Interstate 40 Bridge Allision

As we approach the tenth anniversary of this tragic bridge allision that claimed fourteen lives and knocked out a key interstate highway bridge, we watch helplessly while the Coast Guard still fails to protect our mariners as well as our nation’s infrastructure by taking positive steps to end the intolerable hours-of-service burden that management places on many of our limited tonnage mariners.

We urge Congress to take a new look into the true state of the towing and offshore oil sectors of the marine industry and the abusive work-hours many of our mariners must endure. These abuses sap the strength, vitality, and morale of the nation’s maritime workforce. Eighty-four (84) hour workweeks are required by a two-watch system for many limited-tonnage Masters, Mates, and Pilots. Even worse, over the past half-century, Congress
never established the same twelve-hour work limitation for unlicensed crewmembers as exist for officers on inspected vessels. The treatment of engineroom personnel on tugs, towboats, and OSVs has been inexcusable. As one prominent example, the American Waterways Operators (AWO) and their Responsible Carrier Program (RCP) lauded by the Coast Guard continues to approve unlicensed mariners to perform 15-hour workdays.

The towboat M/V Robert Y. Love was pushing two empty tank barges when it took out the Webbers Falls Interstate-40 bridge in 2002. The vessel was operated by a 60-year old Captain who was pushed to the limit and reached that limit at the moment of the allision that plunged the span into the Arkansas River. Nobody was with the Master in the pilothouse to serve as lookout or to step up, steer or stop the boat when he collapsed.

However, as a labor spokesman reminded industry leaders in a public forum, the towing industry’s licensed officer corps has aged and is close to the age of retirement. It is folly for any company within the industry to expect 84-hour workweeks from an aging workforce on a “two-watch” system that provides inadequate opportunity for recuperative sleep week after week considering the stressful nature of operating a towing vessel.

Today, the entire industry is experiencing growing crew shortages. Many tows, including liquid cargo petroleum and chemicals tows set sail with only one licensed officer on a towing vessel as demonstrated in July 2008 when the improperly manned towboat M/V Mel Oliver went off course and had the oil barge in tow cut in half by the tankship Tintomara spilling 283,000 gallons of oil and closing the Mississippi River for five days. Although most officers know the 12-hour statute prohibits sailing additional hours, the Coast Guard seldom provides effective enforcement of that statute unless it follows a reportable accident.

Since the Mel Oliver accident, Congress now requires “Official Logbooks” on every inspected vessel. However, the Coast Guard has not yet amended their regulations and cracked down on mariners to maintain a meaningful and effective logbook to track hours-of-service violations. Consequently, many accident investigations still are meaningless exercises in picking up scraps of information following an accident. The Coast Guard all but ignored the issue in its Aug. 11, 2011 NPRM on Towing Vessel Inspection. Accurate logbooks can be a smoking gun in identifying the root causes of many accidents if available, if accurately maintained, and if interpreted properly. Most of the industry has not taken the most basic steps to ensure that logbooks are maintained acceptably on any limited-tonnage vessels either before or after Congress required “Official Logbooks” on all inspected vessels in 2010. [Refer to Docket # USCG-2002-12581.]

There are relatively few areas where a tow pushing hazardous cargo can “tie-off” and “shut-down” for 12 hours. Officers are offered inducements and emoluments, either written or implied, to keep these tows moving at all costs. Companies require it and the very nature of our economy seems to demand it. When accidents occur, Coast Guard investigators go after the mariner’s license – an “easy target.” Corporate offenders are a tougher nut to crack because they can afford to hire attorneys who face a “Hearing Officer” (rather than an administrative Law Judge) who is anxious to avoid litigation. A civil penalty is much less disruptive to a corporate entity that may view it as a “cost of doing business.” Suspension and revocation proceedings may impact the life of a working mariner by forcing him to hire an attorney or agree to a suspension, usually one or more months out of work, at costs that often result in lost income of $12,000 per month – far more than all but the most extreme civil penalty. [Refer to NMA Report # R-204, Rev.2, Chapter 2, Example 2.]

Our Association is concerned about the toll that abusive hours-of-service are taking on the health, welfare, and careers of limited-tonnage mariners. Most of our mariners are “employees at will” and are not represented by a labor union that can stand up for their members’ rights and demand fair treatment and safe and healthful working conditions. Instead, our mariners must depend upon the Marine Safety Directorate that often betrays them.

Although the NTSB also investigated this incident, the Coast Guard conducted a parallel investigation of its own although limited in its scope to determining whether the accident involved significant statutory violations.

Our Association brought to the attention of TSAC at a meeting in Coast Guard Headquarters that the Coast Guard accident report showed that the Master on the M/V Robert Y. Love violated work-hour statutes and regulations by failing to obtain 6 hours rest before assuming command of the vessel in Arkansas after driving for over 1,000 miles in only two days with only 3.5 hours of sleep.

It was clear that the TSAC was not familiar with this report and even angrily suggested that our Association was guilty of disseminating false information. However, several hours later, a Coast Guard staff member presented copies of the report in the meeting room at Coast Guard Headquarters.

The Waterways Journal reported on its website on Aug. 28, 2006: “Coast Guard Recommends Fines in I-40 Bridge Accident” as follows: “A final Coast Guard report recommended fines against the Captain and the boat’s owner for the May 2002 allision in which the towboat Robert Y. Love knocked down a 500-foot section of the I-40 Bridge at Webbers Falls in the Arkansas River, killing 14 people and injuring five.
“A fine of $20,000 against the boat owner Magnolia Marine and $5,000 against boat Capt. was recommended by the Coast Guard, according to KOTV-TV in Tulsa, Oklahoma, and quoted on a Coast Guard website.

“Capt. lost consciousness and the boat and its two empty barges smashed into a pier of the Webbers Falls bridge, 201 feet outside of the channel, causing eight cars and three tractor trailers to plunge into the water below.

“The report said the fine was leveled against the company for allowing the captain to work for more than 12 hours in one day without adequate rest, and against the captain for working without enough rest. An estimated 20,000 vehicles a day had to be rerouted around the bridge (although) construction crews reopened the bridge in record time two months later…."

Apparently corporate executives decided that this ending to the story did not fit their inflated corporate image, and could embarrass them in the maritime community, or offend their corporate clients. For whatever reason, they appealed the Hearing Officer’s decision that they had violated the hours-of-service statutes, regulations, and USCG policy. Our FOIA request of Feb. 25, 2007 found that the case was appealed to the Coast Guard’s Office of Maritime and International Law.

Later, according to a phone call to Magnolia Marine Transportation corporate attorney David Humphrey in Jackson, MS, we were told that the civil penalty against the company was reduced from $20,000 to only $2,000 and the civil penalty against Captain was reduced from $5,000 to $500 or possibly done away with completely. Apparently, the Investigating Officer back-peddled and said his report was flawed and that the 12-hour rule simply did not apply. This is what usually happens when corporate attorneys apply pressure to a pliable Coast Guard Hearing Officer who is happy to please at any price to avoid litigation. We asked the Coast Guard to confirm this information with a “status report” as permitted under §552 of the Administrative Procedures Act. To date,(1) we have not received definitive word from the Commandant on any final disposition of this case. [(1)Our Feb. 9, 2012 status request.]

Our Association, by “plain-reading” the statute and the “timeline” and background of both reports believe that both the Company and the vessel’s Master broke the law. Title 46 U.S. Code §8104(a) states: An owner, charterer, managing operator, master, individual in charge, or other person having authority may permit an officer to take charge of the deck watch on a vessel when leaving or immediately after leaving port only if the officer has been off duty for at least 6 hours within the 12 hours immediately before the time of leaving.

Although the Coast Guard belatedly took action against both the operating company and the Master of the vessel for violating this statute four years after the accident, the “appeal process” served to cover-up the matter. Our mariners need assurance that laws that Congress enacts are the laws that the Coast Guard will enforce.

The NTSB Investigation

The NTSB found that the accident resulted in 14 fatalities and 5 injuries and caused an estimated $30.1 million in damage to the bridge, including the operation of detours, and $276,000 in damage to the barges.

The NTSB determined that the probable cause of the M/V Robert Y Love's allision with the Interstate 40 highway bridge and its subsequent collapse was the captain's loss of consciousness, possibly as the result of an unforeseeable, abnormal heart rhythms. Contributing to the loss of life was the inability of motorists to detect the collapsed bridge in time to stop their vehicles.

Major safety issues identified in this accident include:
• The captain's incapacitation and countermeasures for such an event;
• Bridge protection, including risk assessment; and
• Mitigation of loss of life, including motorist-warning systems….

Our Association Disagreement With the NTSB

Our Association was particularly upset with the following excerpt from the NTSB accident report:

[NTSB Report, page 37, “Factual Information,” Licensed Operators’ Hours of Service.]

“The hours of service or hours “on watch” per day for the licensed towboat wheelhouse watch personnel (the captain and the pilot) are specified at 46 U.S. Code §8104(h), which states that “an individual licensed to operate a towing vessel may not work for more than 12 hours in a consecutive 24-hour period except in an emergency.” A licensed operator on a towing vessel can work any combination of hours, as long as that person is not on watch for more than 12 hours in any 24-hour period.

“Not included in the 12-hour work period is standby time, for example, when the vessel is underway, but not
moving or waiting to move through a lock or waiting for a tow to be formed. Also not included in the 12-hour work period is the operator’s commuting time to a vessel. No regulation or requirement specifies the hours of rest a licensed, uninspected towing vessel operator must have before reporting on board to assume or relieve a watch. “According to MMT, the company complies with the hours-of-service law limiting licensed wheelhouse personnel (captain and pilot) to 12 hours of work in a consecutive 24-hour period. The company does not limit a captain’s or pilot’s pre-voyage commuting distance or time. Inland towing companies normally provide the crew with vehicles to use for their commute, but they do not provide drivers.”

The NTSB belief is that: “No regulation or requirement specifies the hours of rest a licensed, uninspected towing vessel operator must have before reporting on board to assume or relieve a watch.” However, we point out that 46 U.S. Code §8104(a) clearly states: “An owner, charterer, managing operator, master, individual in charge, or other person having authority may permit an officer to take charge of a deck watch on a vessel when leaving or immediately after leaving port only if the officer has been off duty for at least 6 hours within the 12 hours immediately before the time of leaving.”

The Coast Guard accident investigation correctly cited a work-hour violation by both the company and the Master based upon G-MOC Policy Letter #04-00, Rev. 1 and subsequently addressed the company’s violation in civil penalty proceedings.

Crew change on the M/V Robert Y. Love took place at Lock 13 near Van Buren, AR, at 1840 hours, and the Captain took over the watch shortly thereafter at 1910 on the day before the accident. (p.14). He had just completed driving a 368-mile leg of a trip that exceeded 1,000 miles for the express purpose of making crew change. Did he undertake this odyssey on his own volition or was he paid to do this?

The Coast Guard defines “work” in paragraph 2.f of Policy Letter G-MOC #04-00, Rev. 1 that the NTSB report failed to consider. The point is that the Master assumed the watch at Van Buren, AR, without the required rest. In a deposition subsequently furnished to the Coast Guard’s Investigations and Analysis Branch the Captain confirmed he was paid by his employer to drive to work. While ignoring 46 U.S. Code §8104(a) may be a common practice, it violates both the statute and a Coast Guard policy specifically distributed to the towing industry several years earlier.

The NTSB “Also did not include in the 12-hour work period the operator’s commuting time to a vessel.” (p.36) We believe that the NTSB is in error on this important point as well. The general public is not well served when two Executive Branch agencies like the NTSB and Coast Guard do not demonstrate a greater degree of coordination when they investigate the same accident. Since the “scope” of the Coast Guard’s activity in this investigation was to “…determine whether there was any violation of law or regulation associated with this casualty and prosecute enforcement activities accordingly,” they are in a better position to state whether the Master and/or his employer violated statute, regulation, or agency policy. However, when two Executive Branch agencies cannot agree on something as basic as “hours-of-service,” then our Association believes that Congress needs to address the issue. In this report, we respectfully ask them to do so.

In regard to “commuting time” (NTSB terminology) to the boat, our Association formally petitioned the Coast Guard on this issue on Apr. 18, 2002 – before this incident occurred. Our petition finally was assigned a Docket number on Oct. 11, 2002 and was subsequently farmed out to TSAC as Task Statement #03-01 the following spring. This “task statement” reflects our great concern with the ambiguous term “neutral time” used in Policy Letter G-MOC-#04-00, Rev. 1, and the confusion it causes as regards the issue of “commuting time.” TSAC made little progress on this issue in over 20 months other than to question towing companies on their internal policies.

[NMA Comment: We ask that Congress, based on the Coast Guard findings in this accident, specify travel time to the job site be counted as “on-duty” time as it is time in service to the vessel.]

Our Association expresses our concern about the constant abuse of the hours-of-service statutes and the NTSB’s giving an aura of legitimacy to the employer’s self-serving statement that: “…the company complies with the hours-of-service law limiting licensed wheelhouse personnel (captain and pilot) to 12 hours of work in a consecutive 24-hour period.” This is a false, self-serving statement!

During the NTSB inquiry, the Tulsa World quoted NTSB Member Deborah A.P. Hersman as saying: “It’s almost amazing that he could function” due to his lack of sleep. However, our mariners understand exactly what
the problem is because it happens to them quite often while regulators turn their backs on the matter. Although the
time-line showing the Master’s hours of service on p. 14 of the NTSB report was impressive, we believe the
following simple statement reported in “The Oklahoman” on May 30, 2002 sums up the problem best:\(^1\) “The
captain who piloted the tugboat and barges that struck the Interstate 40 Bridge had slept for less than 10 hours
during the 4½ hours preceding the accident, a National Transportation Safety Board investigator said
Thursday.” By using any other yardstick such as 72-hours or even 24-hours, the NTSB clearly diluted the impact

Every licensed mariner must serve two masters – his employer and the Coast Guard that licenses him to use the
public waterways. This story is rampant with hours-of-service abuse that Mrs. Hersman appears to have been the
sole NTSB member to recognize. While we recognize the expertise of the medical doctors and professional
engineers the NTSB called upon to elucidate details that virtually exonerated the Master of the towboat, it is
incredible that the NTSB report sidetracked their own important hours-of-service leadership and reform proposals
to reduce human fatigue in transportation operations previously espoused by previous NTSB recommendations
from 1989 to 1999.

Work-hour abuse is based upon “greed” – both individual and corporate. Seeking to install an electronic alerter
device as the Coast Guard proposed in its Towing Vessel Inspection NPRM\(^1\) should not be allowed to replace a
trained mariner serving in the traditional role as “lookout” as it only glosses over the issue of safe manning. The
Marine Safety Directorate ignored the safe manning issue for years and continues to ignore it! We challenge them
to adopt adequate and “science-based” manning standards when they finally “inspect” the nation’s towing vessels. \(^{[1]}\) [Refer
to proposed 46 CFR §§140.630 and 143.325 at 76 FR 50025 and 50042, Aug. 11, 2011.]

## Working “Any Combination of Hours”

The NTSB’s statement on p. 37 also stated that, “A licensed operator on a towing vessel can work any
combination of hours,” as long as that person is not on watch for more than 12 hours in any 24-hour period”
contains another critical flaw. We disagree. This excerpt, as accepted by NTSB, could lead a mariner to believe that a licensed Master, Mate or Pilot legally
could complete 12-hours on watch period and then, possibly acting under a “tankerman” endorsement, use his time
“off watch” to supervise or actively participate in pumping the tank barges that were part of his tow.

In a different incident on Aug. 28, 2002, less than three months after the Webbers Falls accident, we addressed
just such a matter in a letter answered on Nov. 7, 2002 by Coast Guard Captain D.F. Ryan, then Chief of the Eighth
Coast Guard District’s Marine Safety Division. We received this response:

“The purpose of the work-hour limitation statute is to prevent fatigue related accidents and promote the safe
navigation of tugboats. Section 8104(h) states "an individual licensed to operate a towing vessel may not work
for more than 12 hours in a consecutive 24-hour period except in an emergency."

“In September 2000, Coast Guard Commandant (G-MOC-1) released policy letter #04-00, which clarified the
work-hour limitations. The policy letter defined work as "any activity that is performed on behalf of a vessel, its
crew, its cargo, or the vessel’s owner or operator. This includes standing watches, performing maintenance on
the vessel or its appliances, unloading cargo, or performing administrative tasks, whether underway or at the dock.”
It is clear from the definition that a licensed individual cannot perform miscellaneous tasks beyond their normal 12-
hour helm duty, even if it is voluntary. Consequently, the scenario that you alluded to in your letter (transfer
operations of petroleum cargo) would fall under the definition of work.”

## Standby Time

We believe the NTSB also made another error on page 37 when they wrote: “Not included in the 12-hour work
period is standby time, for example, when the vessel is underway but not moving or waiting to move through a lock
or waiting for a tow to be formed.”

The Coast Guard clearly defines situations these under the broad definition of work in the policy letter cited
above. Clearly, the authors of the NTSB incident report lacked critical policy information from the Coast Guard.
Even worse, the NTSB erred in writing without making further comment that, “The company does not limit a
Captain’s or pilot’s pre-voyage commuting distance or time. Inland towing companies normally provide the crew
with vehicles to use for their commute, but they do not provide drivers.” While this may be true, in doing so, the
employer made no provision, allowance, or arrangement for their licensed Master to comply with 46 U.S. Code
§8104(a) that allowed him to drive for 368 miles (after driving over 650 miles the previous day) and then sleeping
only 3½ hours before assuming control of the M/V Robert Y. Love on the evening before the fatal accident.
[NMA Comment: To date, the Coast Guard has not promulgated a regulation to effectively enforce the existing statute at 46 U.S. Code §8104(a) and stated at a TSAC meeting in April 2007 that it does not intend to do so. We assert that towing vessel officers need the immediate protection of an enforceable regulation comparable to the existing Federal Railroad Administration regulation at 49 CFR §228.7(a)(4) to support the existing statute at 46 U.S. Code §8104(a).]

Coast Guard and its Advisory Committees Avoided Hours of Service Abuse Issues

The record\(^1\) shows our Association petitioned the Coast Guard on Apr. 18, 2002 to designate travel time on the way to a mariner’s jobsite to count as on-duty time as it does on America’s railroads\(^2\) where it is enforced as a regulation rather than a “policy” and is known as “deadhead transportation.” \(^{1}\)USCG-2002-13594 \(^2\)Refer to 49 CFR §228.7(a)(4)

The Coast Guard directed our petition to TSAC that fumbled with the issue for years without making a decision whether to support it or not. It is clear that TSAC, long dominated by industry management, does not want the Marine Safety Directorate to enforce the underlying statute, 46 U.S. Code §8104(a), with a meaningful regulation that could disrupt management’s dangerous and physically abusive practices as mentioned in our petition.

What Happened to the Towboat Master?

Our mariners report to us that Captain ■ was a highly respected senior Master, a family man, a good man to work with, a person who always carried his share of the load and is an extremely conscientious individual. Most mariners agreed that he worked for a good and reputable employer that had a good corporate reputation. In summary, we never heard a single derogatory comment about him.

However, we must question what his employers (and other employers in this industry) are thinking by allowing a 60-year old pilot to put in grossly excessive hours of work for them in traveling between the two distant assignments a thousand miles apart that he undertook and completed before taking command of his vessel. To say they were ignorant of these conditions while they paid him for his services is more than any of our mariners can swallow comfortably. We doubt that the burden of 14 resulting fatalities weighs as heavily on a corporate entity than it does upon this vessel Master shortchanged by his employer. Recalling a well known nursery rhyme, after his fall, “Humpty-Dumpty” could not be put back together again.

Also weigh the cost of properly manning the vessel with sufficient watchstanders by “reasonable standards” \(\text{not by existing Coast Guard standards}\) against the $30,000,000 cost of the incident. Proper manning is a legitimate business expense and should not be pawned off as a cost to citizens whose lives are disrupted by shortsighted and irresponsible company policies such as lack of attention to job assignments, travel, and manning by corporate personnel officers.

According to Enforcement Activity #2784236 obtained under FOIA, Captain ■ voluntarily deposited his license five days after the accident and signed a voluntary deposit agreement stating that as long as the agreement remained in effect the Coast Guard would not charge him with incompetence. The agreement stated:

\(\text{• I, ■, have been informed by LT (jg) (name redacted), a Coast Guard Investigating Officer, that, based on my actions on board the M/V Robert Y. Love on May 26, 2002, I am presently not physically fit to serve as a crewmember or pilot aboard a vessel.}\)

\(\text{• In order to avoid a charge of incompetence under the provisions of 46 U.S.C. 239 (sic), I am voluntarily depositing my License (number redacted) with the Coast Guard on this date. I understand that while this agreement is in effect the Coast Guard will not charge me with incompetence.}\)

\(\text{• I understand that this voluntary deposit agreement will remain in effect until I present a report from a licensed physician which states that I am fully fit, in all respects, to perform my duties aboard ship. I agree to allow the Coast Guard to provide this physician with my medical history and information concerning my duties aboard ship.}\)

\(\text{I agree to allow this physician to provide the Coast Guard with medical information concerning my ability to perform my duties aboard ship. I understand that the Coast Guard will promptly return my license to me after the physician's report unless the report is withdrawn or amended by the physician.}\)

\(\text{• I agree that during the period that my license is held by the Coast Guard, I will not accept employment on any merchant vessel of the United States. I further agree that I will not make application to the Coast Guard for the renewal, issue, or reissue of any Merchant Mariner's Document, License, or Certificate of Registry, without stating on such application that this agreement is in effect.}\)

\(\text{• I enter into this agreement freely and voluntarily and I fully understand its meaning and effect. Signed ■}\)
The license expired on Dec. 23, 2002 and by allowing the one-year grace period to expire, Captain may have relinquished all rights to his license. Suspension and Revocation proceedings against his expired and invalid license would serve no practical or useful purpose.

It is clear that Captain suffered from a medical condition that manifested itself at the time and was the proximate cause of the accident. We do not question the doctor’s diagnosis reported in the NTSB report. However, our Association believes he was the victim of harsh and unreasonable working conditions associated with the two-watch system, perpetuated not only in the towing industry but also in the offshore oil industry without regard for workplace safety as similar conditions exist in both industry sectors.

We believe that adequate enforcement of work-hour statutes begins with clear recordkeeping requirements. It is now “crunch time” for establishing meaningful and enforceable “hours-of-service” regulations and ramping up accurate recordkeeping in newly required official logbooks.

Example #3 – The Seabulk Georgia Casualty

The “Two-Watch” system is not limited to vessels working on the Western Rivers such as the M/V Robert Y. Love but also is allowed on over a thousand offshore supply vessels working on the Outer Continental Shelf on voyages of less than 600 miles. The M/V Seabulk Georgia was such a vessel. [46 CFR §15.705(c)(2)]

The "Official" Coast Guard Casualty Report

On Aug. 1, 2000, the OSV Seabulk Georgia, a 180 foot offshore supply vessel built in 1984 was underway en-route to the offshore platform at Vermilion 267A on a course of 226 degrees at a speed of approximately 10 knots. The mate, Ronnie Chambers, was on watch. At approximately 02:00, the OSV Seabulk Georgia had an allision with the Mobile Offshore Drilling Unit (MODU) Dolphin 105. The Dolphin 105 was jacked-up alongside the platform at Eugene Island 095-17 doing work on the well. The initial impact with the MODU was at the port quarter of the MODU and the starboard bow of the OSV Seabulk Georgia.

After the initial impact, the OSV Seabulk Georgia continued underneath the MODU, completely tearing off its entire pilothouse. Ronnie Chambers, at the helm, was dragged with the entire pilothouse to the deck below. Both Ronnie's legs were crushed and had to be amputated.

The OSV Seabulk Georgia was on a course maintained by the vessel's auto pilot. Visibility was at least 1 mile. Ronnie Chambers was on watch and had been on watch for about 6 hours. He had 6 hours of sleep prior to his watch. According to his statement and the statement of the Qualified Member of the Engine Department QMED, Ronnie had gone down to the galley to make a sandwich and get a cola. The QMED stood by for Ronnie on the bridge. They both said Ronnie was gone for about 5-10 minutes. After he returned, the QMED stated that he stayed with Ronnie on the bridge for another 5 minutes and then went below to make his rounds. The QMED stated that he was gone about 10-15 minutes and was on the way back to the pilothouse when the allision happened.

Vocabulary: QMED = An unlicensed but trained “rating” employed to assist the vessel's engineer. He is a qualified “engine” and not a “deck” rating.

In talking with Ronnie Chambers after the incident, the QMED stated that Ronnie recalled that he was on watch and that the vessel’s auto pilot was on. Ronnie said he did not have any problems with the auto pilot and heard and saw no alarms. He said visibility was at least 1 mile. He went down to the galley for a sandwich and a cola. When asked if night vision was a problem when coming back to the bridge from the galley, he stated he didn't think so. The last thing he remembers was standing by the weather machine getting the updated weather.

After all the interviews and a visual inspection of the damaged vessel, the investigating officer concluded that Mate, Ronnie Chambers, was in the pilothouse at the time of the allision and in charge of the safe navigation of the vessel. Ronnie's exact position in the pilothouse can't be proven, but he may have been at the helm at the time of the allision. His shoe and leg were found lodged between the overhead and the center window forward of the helm. The investigator's theory is that upon initial impact with the MODU, the pilothouse's forward edge of the overhead and forward windows folded back against the inner pilot house overhead trapping Ronnie's foot; and as the vessel continued under the MODU, the entire pilothouse overhead peeled back and fell onto the deck below. Once the vessel cleared the MODU, Ronnie fell to the 01 deck, tearing away from his leg, which had been torn while the pilothouse was peeling back.

The Coast Guard investigation concluded that (the mate) was negligent in the performance of his duties as mate while on watch by inattentiveness to the navigation of the vessel through a congested area.
There is More to this Story

Although the Coast Guard report established the principal events and provided a theory of what may have occurred, it just touched the surface. Many other theories abound. The rest of the story relies on the deposition of all persons involved in the casualty as well as other “expert witnesses” whose stories come into play after the accident and in the courtroom or, in this case, in settlement hearings outside the courtroom. These proceedings do not appear in most formal USCG or NTSB casualty reports and occur years after the accident.

Our Association brings to your attention that very few accidents involving our limited tonnage mariners are ever widely reported. Where the story is sensational or unusual or if there is some public impact, a brief local newspaper account immediately after the event is all you may ever see. Most mariners seldom see the results of a formal Coast Guard investigation of an accident because a long time often elapses before these reports are available even under FOIA. By the time an accident report is finalized, it is no longer “news” and loses much of its interest for mariners not directly affected.

Our Association has much more than a passing concern for limited-tonnage mariners injured on the job and subsequently abandoned on industry's scrap-heap. As mariners, we try to look after our own. In this case, in the words of Attorney Philip Cossich: "We were able to turn a bad situation into a positive one for a seriously-injured young man."

Ronnie Chambers story focuses on the single father of a beautiful young daughter who would have been abandoned by his employer to navigate through life after losing both his legs in a terrible workplace accident. It is a story of a mariner, his brave parents and other family members, and a team of active lawyers willing to face down one of the largest boat companies in the domestic offshore oil industry to reach a fair and just settlement for his future care and maintenance.

Whatever our readers may choose to speculate, the trauma of the accident completely erased all Ronnie's memory of the immediate events leading up to the crash. There is no use to speculate because even the company's Safety Manager determined that the cause of the accident remains "unknown."(1) Did Ronnie fall asleep on watch? Perhaps, but Ronnie does not accept any such assumption, and we see no need to speculate. *(1)*Safety Manager's deposition, p.116.*

The OSV Seabulk Georgia and Oilfield "Tradition"

On behalf of our Association, I had the opportunity to review hundreds of pages of depositions taken from "expert" witnesses as well as crewmembers, company shoreside personnel, and other concerned parties after this horrendous accident.

In the depositions there was no "finger-pointing" by members of the crew who lived through that gruesome night. It was clear that the Captain and other crewmembers interviewed had only respect and affection for Ronnie Chambers. Although he had only been assigned to the OSV Seabulk Georgia for about 10 days, it was clear that Ronnie was readily accepted as part of the crew and was working among friends.

*This was a hard-working crew whose Captain reported that he didn't sleep much and often put in 20-hour days. The QMED, who was on lookout duty with Ronnie, had already put in 17½ hours in the past 24 hour period. The QMED made it very clear in his deposition that nobody had forced him to work those long hours. He stated that he worked extra hours voluntarily and was not under duress. The picture emerges of a close-knit, hard-working crew that came together to do a job that lasted far beyond the number of hours legally available yet effectively mustered following the disaster to save Ronnie's life in the few moments available to them following impact.* In the course of preparing this report, I reviewed the pertinent transcripts and commend the mariners involved for their heroic actions that saved Ronnie Chambers life.

*A clear picture emerges of a crew that simply had too many tasks to accomplish, too few hours to accomplish them, and far too little effective shoreside support.* Of course, those who work in the offshore industry probably will yawn and say, "That’s nothing new!" It is irrelevant unless you are the victim of unsafe practices.

One of the most common problems that mariners on offshore supply vessels face is that their vessels are perpetually undermanned for the jobs they are expected to do. The boat owners, represented by their trade association, OMSA, vehemently disagree in forums like NOSAC whose federal advisory committee meetings we often attended. *The boat owners have worked for many years to keep manning levels reflected on their vessels' Certificates of Inspection at the lowest possible level. Seamen manning these vessels never have a voice in setting vessel manning levels. Only the vessel owners have direct access to the Coast Guard when it comes to setting industry-wide manning policies.* Industry and the Marine Safety Directorate "leveled the playing field" so that many most vessels in the industry are insufficiently manned for sustained 24-hour service. The situation on
towing vessels is even more desperate they are not even issued a Certificate of Inspection; and interpreting their existing manning regulations is almost impossible for the average mariner and is left to employers to interpret as they choose since logbooks are rarely checked for compliance with manning regulations.

In many ways, seamen are their own worst enemies. Although the Captain of OSV Seabulk Georgia was assigned an “extra man” for this fateful voyage, he still believed his vessel was undermanned. Yet, by working beyond the legal 12-hour limit and allowing his QMED to do so as well, the Captain virtually guaranteed that the company would never be under any pressure to assign the number of men he believed were really necessary to operate the vessel safely and also to maintain at the level the company apparently expected. [1]Captain's deposition, p.50.]

What motivated the QMED to work these long hours? In his own words: "...even though I've been up 10 or 12 hours, if I'm not tired and there's something going on, I'm going to help. I mean, that's part of the industry. And, if you do that, captains want you to come back. They call the office. You get good reports. And that helps you towards your license and progress and moving up and making ratings and stuff like that."[1]QMED deposition, p. 126.

Although the Coast Guard overlooked these individuals violations of the 12-hour rules, the company's Safety Manager became "concerned" after the accident that his QMED, who accepted the lookout assignment that night, worked 17½ hours in the 24 hours preceding the accident. [1] He reportedly "discussed it with management" several days after the accident. [2] Although the QMED may deserve an "E" for effort, he now can try earning it from a different employer. [1]Refer to NMA Reports #R-207, Rev.1; #R-207-A & #R-207-B on the training and posting of lookouts. [2]Safety Manager's deposition, p. 122.

Both the Safety Manager and Seabulk's expert witness who held an unlimited Master's license and had years of deep-sea shipping and managerial experience, considered the Captain at least partially at fault for not managing his crewmembers properly. The company Safety Manager went even further and stated that this was why the Captain forfeited his safety bonus. [1] The expert witness stated: "...if he honestly believed that the vessel was under-manned...you should do something about it. You shouldn't take it away from the dock. You should report it to the Coast Guard. If the Coast Guard doesn't agree, you should report it to a federal judge, which you're required to do. And he didn't do so..." [2]Following the accident, the Captain took a job with another major boat company. [1]Safety Manager, deposition, p.122. [2]Master expert witness, deposition, p. 43.

“Maintenance and Cure” Instead of Workmen's Compensation

A seaman injured while serving on his vessel is entitled to receive maintenance benefits from his employer in addition to medical treatment called "cure." [2]Under most workers' compensation programs, which do not apply to seamen, a person who is not a seaman may continue to receive compensation benefits after he/she reaches a point of "maximum medical improvement." On the other hand, a seaman is owed maintenance and cure only until he reaches a point of "maximum cure." Maximum cure is the point of medical treatment where it appears that no improvement in the seaman's condition will result from further medical care. Seabulk saw “maximum medical cure” happening shortly after Ronnie left the hospital and was fitted with two artificial limbs. This might have been adequate in the days of Pegleg, but the world has changed since then. In reality, as evidenced by medical experts, care, refitting and replacing prostheses, and professional medical care will have to continue throughout Ronnie Chambers expected life span. Adequate provision must be made for this care.

The amount of benefits workmen's compensation offers a shoreside worker is different than those an injured seaman might receive from maintenance and cure. Typically, "worker's comp" is set by a wage-based formula according to state statute while a seaman's maintenance rate is unrelated to his earnings. Maintenance benefits are supposed to pay an injured seaman for food and lodging equivalent to those aboard the vessel...one often interpreted by maritime employers as a rented room in a flophouse. Further, a vessel owner's maintenance and cure obligation is not set out in any statute. The duty to pay such benefits is a matter of un-codified general maritime law. This leaves it up to the employer to determine what is fair and reasonable for an employee who (for
whatever reason) no longer contributes his labor to the company. Such payments tend to be small and of short duration since there is no universal maintenance formula.

Herculean Labors

Since undertaking Herculean tasks without great concern for their human costs is a tradition in this industry, let's reflect on the uneasy relationship between these traditions, workplace safety, and the law.

The OSV Seabulk Georgia appears to have been run in a "traditional" manner reflecting the way things always have been done in the oil patch. Tradition in the offshore industry often involves cutting corners, especially at the expense inconvenient laws and regulations. Of these inconvenient legal niceties, the 12-hour statute and using unlicensed crewmembers in both the deck and engine departments are the most ignored and abused by both limited-tonnage ship’s officers and their employers. (Refer to 46 U.S. Code §8104(e) where a QMED engine rating performs duties of a deck watchstander.)

When industry leaders or their trade association are unable to sidetrack a new regulation during the rulemaking process, they simply ignore or "interpret" unwelcome portions they believe the Coast Guard cannot easily enforce. Considering the Coast Guard's traditionally lax enforcement of maritime laws and regulations that affect limited-tonnage mariners, the chance of being caught is very limited; the chance of being punished is remote; and the opportunity to make or save a great deal of money is enhanced. Our Association asserts that vessel manning on limited-tonnage inspected vessels involved in serious accidents allegedly resulting from “human factors” be carefully audited with full access to vessel logs and company payroll records and civil penalties.

Until that happens, the Coast Guard needs to verify mariner work-hour complaints and at least make an effort to effectively enforce existing laws and regulations including recent logbook requirements and have inspectors audit each mariner’s “on-duty” hours. Our Association continues to assert that a new or amended statute is necessary to limit hours-of-service of all “ratings” (such as the QMED in this case) to 12 hours in any 24-hour period.

Working at Sea is Dangerous Work

Limited-tonnage mariners who work on OSVs and towing vessels perform dangerous work. How dangerous it is may never be known because the Marine Safety Directorate continues to be inattentive to its own deficiencies in accident reporting procedures over the years. Although previously reported to members of Congress and committee staff, the Marine Safety Directorate stonewalled our Association to the point where we finally reported a number of incidents directly to the DHS Inspector General’s office. (Refer to NMA Reports R-429, Rev. 1; R-429-A, Rev. 1; and R-429-B, Rev. 1.)

We urge every limited-tonnage mariner to reflect on this question: If I am seriously injured on the job, who will take care of me? Care may be required for weeks, months, or in the case of Ronnie Chambers and in spite of his most courageous efforts, for the rest of his life.

Our mariners must consider this: If I cannot go back to work, where will my next paycheck come from? Or my next meal? Or my family's? If I am not able to work and need medical care, prescriptions or treatment, who will provide them or how can I survive without them?

The truth in this case, as in cases with a number of other mariners our Association regularly encounters, is simply this: when you are seriously injured and cannot return to work, your employment and your health coverage ends or requires COBRA payments you can no longer afford, you are in serious trouble. If you are a mariner accustomed to bringing home a steady paycheck, you certainly have good reason to be alarmed with such treatment. If you are a union member, at least you and your co-workers have had an opportunity to bargain collectively with your employer to ensure that your needs are taken care of by your employment contract following a serious accident. But, as an employee “at-will” you have no contract your employer must live up to, and you are left to find your own way. This means that you must hire an attorney and prepare to fight for your future in court. You must do this at a time when you are injured, often resentful, maybe depressed, without hope, and generally vulnerable to accepting a “quick settlement.” Our Association documented the corporate practice of simply cutting loose their injured mariners who are no longer able to work and leave them to fend for themselves. Keep in mind that most limited-tonnage mariners are “at-will” employees without contractual rights or benefits. (Refer to NMA Report #R-202, Rev. 5.)

Standing Up to Corporate Giants

The prospect of standing up to a corporate giant with many vessels and with both international and domestic interests is daunting. The prospect in this case appeared even more hopeless when the Coast Guard pronounced its collegial judgment in unforgiving terms like “negligence” and “inattentiveness.” Making the blow a little less
crushing, the Coast Guard mercifully allowed Ronnie to surrender his license for medical reasons without dragging him through a formal hearing process.

Meeting the high costs of rehabilitation, lifetime care, vocational counseling, retraining to provide future income, and assistance with day-to-day living were all matters that had to be examined and then somehow financed. By cutting Ronnie loose at the earliest possible date, the company was determined to divorce itself from responsibility for what happened. In effect, Seabulk assumed they were blameless, quickly distanced themselves from the accident, and went about their business believing that any problems generated by an injured, unemployed, and penniless seaman could be handled easily by the company attorneys.

The "Real" Investigation

Proving that Seabulk shared the blame for the accident was a major problem considering the fact that the trauma of the accident totally erased Ronnie's memory of the accident itself. Following the Coast Guard's investigation released in March 2001, the "real" investigation was conducted by Ronnie's attorneys Les Martin and Phil Cossich.

The attorneys' examination of how Seabulk Offshore, Ltd. operated the OSV Seabulk Georgia was at the heart of the investigation. This investigation had many facets we will examine in some detail.

The investigation would consume the better part of a year and required hundreds of hours of legal preparation and produced over three-hundred pounds of documentation. Up until the day of the trial on Dec. 17, 2001, Seabulk was unwilling to make anything that could be considered a reasonable settlement considering his projected expenses to compensate Ronnie for the injuries he received as an employee on their vessel. Furthermore, no settlement would result if Seabulk had not been at fault for their practices. What they were willing to admit and the exact amount it cost the corporation was not made available. However, the settlement was reported to be considerable. Fair and reasonable are terms that could be applied to the final settlement whereas "charitable" could not!

During the time following the accident, Ronnie exhibited tremendous courage and perseverance in his attempt to put his life back together and arise above his pain and conquer his disabilities. After release from the hospital, he underwent rehabilitation and was examined by medical experts that advised him as to his medical prognosis. He received vocational counseling that centered on how he could retrain to make a living in a completely new occupation. Financial estimates for the cost of this care had to be carefully prepared and were subjected to close scrutiny. During this period, an exceptionally heavy burden for his care and maintenance fell upon his parents and upon other caregivers.

To gain their attention and to convince them they were serious in pursuing a settlement, Ronnie's attorneys sued Seabulk Offshore Ltd. in Federal District Court for $28,000,000. That amount and a recent jury verdict in Federal District Court in Lafayette, LA, in the case of an injured oilfield worker that also lost both legs, made the point that Seabulk's practices would be closely scrutinized.

To generate as full and complete a picture of the accident as possible, most of the vessel's crew was "deposed" and provided statements under oath with the adversary (i.e., Seabulk) present and cross-examining them. All depositions were reported and transcribed by a Court Reporter and became part of the official public record. In addition to crewmembers, a number of Seabulk shoreside employees were deposed at length as were several expert witnesses Seabulk hired to provide their opinions of what had happened.

Prologue to the Accident

On the day before the accident, the OSV Seabulk Georgia spent the day alongside the dock in Berwick, LA. The vessel had six assigned crew members, one more than the minimal number its Certificate of Inspection called for. The crew included the Captain, one Mate, one licensed engineer, one QMED (qualified member of the engine department), one Able Seaman and one Ordinary Seaman.

The vessel's two seamen were set to work chipping and painting the colorful red, white, and blue vessel to keep it standing tall in the best oilfield tradition. This would probably be the most expensive paint job the vessel ever received because two seamen put in their full day's work in the hot summer sun and were not available for duty as watchstanders later that night. Every mariner knows how a poorly maintained boat reflects poorly on its Captain, its crew, and its company...one of those unsinkable traditions.

The Master and the Mate

The Master was a 25-year veteran of the oil-patch. He was also a very handy person to have around any boat. He was concerned with vessel maintenance and knew enough about cutting and welding to help the engineer replace a pair of valves in the pipe tunnel during the day. In mid-summer, this was truly hot and tiring work.
It would stretch the truth to say that the company did not know all this activity was taking place. After all, they were called and even brought at least one of the new replacement valves to the boat. However, there is no evidence that a hot-work permit was ever sought or obtained for welding repairs on this inspected vessel – a fact that, more than likely, would dismay the local Coast Guard Marine Safety Inspectors had they encountered the work in progress. While this work was underway, the QMED, the "extra" man on the boat, was also busy at other tasks throughout the long, hot day taking only a brief nap during the late afternoon. The QMED was also one of those persons who "knew his stuff." In fact, the company lucked-out in having an excellent boat crew as measured by the yardstick of the best oilfield tradition. Why then, less than 24-hours later did following these same traditions contribute to a devastating accident that cost the company and its insurers several million dollars?

Knowing that the boat would have to make a long run that night, the Captain wisely let his mate, Ronnie Chambers, rest during the day. Ronnie did not participate in the strenuous work schedule with the rest of the crew because he would have to take the boat out on its night run to Vermilion 267A. When the time came, Ronnie was expected to prepare the boat to get underway, maneuver it away from the dock, and take it on a 40-mile run down the winding and congested Atchafalaya River, across Atchafalaya Bay and out the dredged channel into the Gulf of Mexico – all tasks that Ronnie performed flawlessly and up to his Captain's expectations. Ronnie also knew his stuff.

The Captain, with his many years experience, had worked with Ronnie for the past ten days. He developed a favorable opinion of his mate who was also almost ready to sit for his Master's license. The Captain decided Ronnie was a good boat handler and could be trusted to make the night run. In this industry, trust must be earned. When offered by a veteran Captain, it is a compliment carrying an obligation a conscientious mariner does not take lightly.

It is traditional in this industry for the Captain to hand his vessel around the dock, take her out the channel to the sea buoy, and then turn her over to his mate. From this point, the Mate runs the OSV to the destination and then hands the vessel back to the Captain to maneuver around the rig: when the Mate then goes out on deck to play the role of chief deckhand. Following this particular tradition makes it very difficult for a mate to obtain much practical boat-handling experience. This particular tradition also violates the "12-hour rules" that govern all OSVs on voyages under 600 miles as well as all towing vessels regardless of the length of the voyage. There are too few crewmembers on board to stand a real “watch” so both officers and ratings must grab whatever rest they can and be prepared to work whenever called upon.

Ronnie is the sort of person that seeks responsibility and was rewarded by a Captain that trusted him and offered him real boat-handling experience. In return, Ronnie looked up to his Captain with respect for giving him the opportunity to prove himself. Whatever happened in the hours that followed, the mutual respect remains between these two men. In interviewing Ronnie Chambers, terms like "negligent" and "inattentive" are strangely out of place and beg a definitive explanation for the events that changed his life forever. Unfortunately, the record and the man provide no explanation – only theories.

Our Association believes the assignment of blame falls in large measure on some of the traditions that still exist within the industry. Clearly, some traditions must change and change quickly to meet changed requirements such as the International Safe Management Code (ISM) as well as STCW and ILO requirements.

Relinquishing Command of the Vessel

After the OSV Seabulk Georgia passed the sea buoy and into the Gulf, Ronnie asked his assigned lookout, the QMED, to hold the wheel for a few minutes while he ducked below to get some sandwich fixings and a cola. With no cook assigned to the boat, the crew is left to raid the refrigerator at will to scrounge up a meal or a snack. Removing the cooks traditionally assigned to OSVs was an austerity measure dating back to the oilfield "bust" of the mid-1980s. While not paying a cook may cut expenses, the real cost is borne at the expense of the crew's comfort and nutritional well-being.\textsuperscript{(1)} Refer to NMA Report #R-455, Rev. 3.

The simple act of a watch officer ducking out for a quick snack when all is clear ahead clashes with Coast Guard legal precedents\textsuperscript{(1)} that a licensed officer must never turn the watch over to an unlicensed crewmember, not even for a minute. The company Safety Manager\textsuperscript{(2)} blasted Ronnie for this transgression although this is a well known and traditional oilfield practice. \textit{[\textsuperscript{2})Safety manager’s deposition, p. 106.]

Handing over control to go below for a call of nature is also a common practice. This tradition is so ingrained that OSVs are still built without plumbing in the pilothouse. How does tradition explain human necessities for those on watch to answer calls of nature? The thought of installing a flush-toilet on the bridge would be laughable if it were not a common fixture aboard some (but not all) line-haul river towboats.\textsuperscript{(1)} One mariner, who relieved himself in a metal can that he subsequently dumped into the Ohio River, was admonished for polluting the river by
Coast Guard interviewers... Also significant at the same time, was the fact the officer’s tow collided with a moored barge dumping 85,568 gallons of gasoline into the river. Refer to NMA File #M-113.]

When Ronnie returned to the pilothouse, the QMED soon announced that he was going to make his rounds in the engineroom, which also, is traditional. Although most OSVs and towing vessels have a so-called "automated" engineroom that allows them to operate on a 24-hour basis with only one person assigned to the engine department, someone must be available to monitor the engineroom and respond to engine alarms while the vessel is underway or standing by at an offshore rig or platform. A functional job analysis (FJA) performed by the Coast Guard in 1980 shows the OSV engineer as the most overworked person on a supply boat since he is not only responsible for maintaining the engineroom but also for pumping all the vessel's bulk cargo. Aside from answering alarms, it is also sensible to check the engines periodically to see that all is running smoothly. Before leaving the pilothouse, the QMED glanced at the radars and confirmed that the OSV Seabulk Georgia was on a course that would bring it safely midway between two obstructions ahead. Although he was an “engine” rating, the QMED had previous experience at sea in the U.S. Navy. He expressed no real concern in leaving the pilothouse for a few minutes (later estimated to be between 15 and 18 minutes) to check the engines...nor did Ronnie. While below, the QMED made his "rounds," closed several deck plates as the chief engineer previously requested, picked up some tools, and then grabbed some milk and cookies in the galley. It was then, as he prepared to mount the stairs to the pilothouse that the OSV Seabulk Georgia struck the rig and plowed underneath it as the pilothouse crumpled and was torn from the upper deck, dragged aft with Ronnie in it, and deposited on the cargo deck aft of the galley. It was the QMED and the Captain, who picked through the wreckage, found Ronnie, applied tourniquets, summoned COAST GUARD interviewers... Also significant at the same time, was the fact the officer’s tow collided with a moored barge dumping 85,568 gallons of gasoline into the river. Refer to NMA File #M-113.

Soon the question arose as to how the watch was established. Here the law(1) specifies that the watches be set by the vessel's master. In addition, according to law,(2) the watch schedule must be posted where it is easily accessible. *(1)* 46 CFR §15.1109 states: “Each master of a vessel that operates beyond the boundary line shall ensure observance of the principles concerning watchkeeping set out in STCW Regulation VIII/2 and Section A-VIII/2 of the STCW Code.” Section A-V/2 contains 106 separate and specific guidelines that must be observed. *(2)* Treaty obligation under STCW Code, Section A-VIII/2.5.

Tradition, at least as practiced in the oil patch, discourages putting things that are routine or easily understood into writing – watch schedules included. Consequently, setting the watch that evening was done informally with the vessel's Master pretty much leaving it up to his Mate to arrange for his own lookout or to perform the task by himself. Since the QMED "volunteered" to stay on duty at night, the Captain, the Chief Engineer and the two seamen rested from their hard day's work of ship's maintenance at the dock as the boat headed down the Atchafalaya River. Everything looked rosy: Ronnie describes himself as a night person, and the QMED volunteered for the duty. Consequently, *setting the watch that evening was done informally with the vessel's Master pretty much leaving it up to his Mate to arrange for his own lookout or to perform the task by himself.*

Seabulk assigned an extra person to work on the vessel that was not required by the vessel’s Certificate of Inspection. In this case the person hired was the QMED-Oiler. Our Association,*(1)* urged the Coast Guard to "Review and set safe manning standards for offshore supply vessels and uninspected towing vessels." Work in revising manning standards for vessels under 1,600 gross tons is a project that is long overdue. Re-evaluating *manning is not something that boat companies encourage because solving obvious manning shortcomings will cost them money.* *(1)*Refer to our Report #R-279, Rev. 10."

In each of these cases, tradition clashed with the law. One of Seabulk's expert witnesses with an unlimited Master’s license repeatedly invoked the word "traditional" to try to justify most aspects of Seabulk's flawed operation. He even pointed out that the Coast Guard's accident investigation did not cite any of these legal shortcomings as "violations."

Unfortunately, such omissions are characteristic of many Coast Guard casualty investigations that are often hurried and may often do little more than scratch the surface.(1) Aside from providing an outline of what happened and a preliminary tally of the damages, the Coast Guard report became irrelevant in the months following the accident. In any event, a Coast Guard casualty report cannot be used in court. *(1)*At the time, the “investigations” workload at MSO Morgan City
The Vessel's "Fast Rudder" Steering Problem

The OSV Seabulk Georgia had a steering problem that the Captain called a "fast rudder." This describes a condition where the rudders suddenly and unexpectedly go hard over without warning and without any steering command. The problem was reported to the company's Port Engineer on June 28, 2000, a month before the accident. From report repairs, there were indications that hydraulic cylinder failures in January and June did require corrective action and were repaired. Still, the Captain recalled this condition occurred again just a few days before the accident. An important but unanswered question seems to be whether or not a hard-over rudder command may have occurred on the night of the accident.

The Captain testified that this same condition occurred even after repairs were made and just a few days before the accident. Unfortunately, Seabulk could offer no records of this service call for the repair work. Ronnie independently experienced a similar "fast rudder" problem while tied stern-to a rig with the engines working slow ahead within the short time he served on OSV Seabulk Georgia.

The Captain reported twice in June that the "repeater needs to be relocated due to magnetic flux." Although Seabulk's expert witness on steering claims to be baffled by this report, it is clear that the Captain knew something was wrong with the steering system and thought the problem was electrical rather than hydraulic. However, technicians did repair some obvious hydraulic problems, while possible electrical problems were not looked into.

An NMA steering consultant with years of commercial hydraulics experience who discussed pertinent parts of the case with us at our request stated that the rudders would not suddenly go hard-over without an electrical command to do so. Such a command might be random and generated by two contacts coming together on their own. The difficulty was that such a problem, whatever its cause was intermittent. It is both expensive and problematic to hire a technician to stay aboard the vessel to wait for such a random problem to recur. Nevertheless, whatever caused the problem was likely electrical rather than hydraulic.

The Gyrocompass

The OSV Seabulk Georgia was fitted with a Sperry gyrocompass, autopilot, and magnetic compass. Sperry builds fine top-of-the-line equipment that usually gives many years of trouble-free service. The fact that it had been installed on the vessel for 17 years was not as important as the fact that the gyrocompass reportedly did not function. The law(1) does not require that a gyrocompass be installed on a vessel of less than 1,600 gross tons.(2) However, Coast Guard inspectors require that inoperable equipment either be repaired or removed from the vessel.(3) At the time of the accident, the vessel was operating on autopilot using direction input from the Sperry magnetic compass because the gyrocompass did not work and apparently had not worked for a long time. [33 CFR 164.35(d). (2) The OSV Seabulk Georgia is 290 gross tons. (3) As per discussion at USCG MSU Houma.]

Expert testimony provided by Seabulk followed the vessel's "trajectory" from the sea buoy to the site of the accident only a few miles away. The scenarios presented in the depositions provided theories in which course changes of fractional parts of a degree were argued over. However, the accuracy of the magnetic compass never appears to have been questioned even after it was picked from the wreckage set on 226 degrees. However, Ronnie pointed out that the compass course was rarely within 15 degrees of the true course and that using the GPS with its off-track error as he had done was more reliable than relying solely on the magnetic compass. The deviation table, if it existed for OSV Seabulk Georgia, was never mentioned in any testimony and never appears to have been presented as evidence of the compass calibration or accuracy.

What haunts the discussion is the Captain's statement of a month earlier: "(the) repeater needs to be relocated due to magnetic flux." Repeater, of course, refers to the gyrocompass' display unit. The Captain suspected that something was wrong with it and that the repeater or its wiring might have caused the "fast rudder" problems that plagued the vessel. Of course, this was only a theory and, as such, was based on an incomplete knowledge of the electrical end of the complex Sperry steering system. But, it was based on many years of oilfield know-how that often tends to be easily dismissed. Was the vessel's autopilot set on a magnetic collision course with the rig? Or, did the vessel suddenly swerve off course because of its recurring and unsolved "fast rudder" problem? Or, did the vessel gradually drift off a course that had been set to skirt the rig safely? There is no answer to these questions, only theories.

Questionable Shoreside Support

If you have a good crew interested in performing maintenance on a boat, some companies take advantage of the
situation by stretching their shoreside support by hiring fewer supervisory personnel. An intelligent Port Engineer is key to getting major problems fixed in a timely and complete manner. Lacking that, any Port Engineer standing on the dock when an OSV arrives from offshore is a welcome sight. Previously, and for approximately six months, the OSV Seabulk Georgia was not assigned a regular Port Engineer.\(^{(1)}\) That, coupled with constant crew changes, makes it difficult to have any continuity in major repair work. Caring for six or seven large supply boats presents a major juggling act that is a challenge to any supervisor’s ”span of control.” It is also clear from testimony that the Port Engineer who took the Captain’s report about the ”fast rudder” in late June didn’t understand the nature of the problem even though he signed the report that recorded the complaint. The Port Engineer even stated that the autopilot is ”the Captain’s thing“ displaying his ignorance of this equipment for all to see.\(^{(2)}\) The Port Engineer stated in his deposition that he did not know in which direction the vessel would turn if hit with a hard starboard rudder command.\(^{(3)}\) With such responses, it is not hard to see why equipment such as the vessel’s complex steering system and gyrocompass never were successfully repaired. \(^{(1)}\)Port Engineer deposition, p.16. \(^{(2)}\)Ibid., p.59. \(^{(3)}\)Ibid., pgs. 59, 60.\]

Rebuilding the Wreck

Although the steering system was operational, but in questionable condition before the accident, its performance has now probably improved. Without knowing the details, the old OSV Seabulk Georgia was not sent to the scrap heap but was resurrected to run another day. If there were any electrical problems with the steering, there was no damage to the boat’s two steering motors located down in the engineroom. All wiring problems that may have existed in the pilothouse were solved instantly by the accident that smashed most of the navigation equipment and controls and tore out all the wiring. Pictures of the reconstructed pilothouse show a shiny new (or possibly reconditioned) gyro display unit. It is clear that the company (or its insurer) spared no expense repairing the boat and returning it to service and up to Coast Guard standards. Yet, the company sought to shuck their most important responsibility to care for their injured former employee. In the long run, failing to address Ronnie’s future cost the company much more than repairing the boat.

The time has come for both marine industry and the Marine Safety Directorate to consider that restoring damaged human beings is at least as important as repairing damaged equipment. This is one consequence of "human factors" accidents both the Coast Guard and the industry can no longer ignore. If Seabulk believed it could simply wave a magic wand and absolve themselves from blame, they now know otherwise.

Was the OSV Seabulk Georgia Undermanned?

"Administrations\(^{(1)}\) must establish and enforce rest periods for watchkeeping personnel and require watches onboard seagoing ships to be so arranged as to avoid any impairment of the efficiency of watchkeeping personnel because of fatigue. They must also require their watch systems to be so organized that, on proceeding to sea, the first and all subsequent watches are sufficiently rested and fit for duty." These requirements contained in the regulation itself\(^{(2)}\) apply to all watchkeeping personnel. Administrations must also include in their legislation a requirement for watch schedules to be posted where they may easily be seen and read by all watchkeeping personnel.\(^{(3)}\) \(^{(1)}\)The term “Administrations” includes both Congress and the U.S. Coast Guard. \(^{(2)}\)STCW Regulation VIII/1. Although STCW and the International Labour Organisation now require 11 hours of rest in a 24-hour period, U.S. regulations limit merchant marine officers to working no more than 12 hours in any 24 hour period except in genuine emergencies. \(^{(3)}\)Morrison, W.S.G., Competent Crews = Safer Ships: An Aid to Understanding STCW ’95, 1997, Malmo, Sweden. World Maritime University, p.170, #6.\]

[NMA Comment: The time has arrived to resolve any legal differences in terminology between “hours-of-service” (domestic terminology) and “hours-of-rest” (international terminology.)

Several months after the incident, Seabulk ”clarified" its watchstanding procedures so that they required its vessel Masters to post their watch schedules. This was called a ”clarification” of previous procedures so that the company could claim it had always followed the law. At least by making this paper gesture, tradition began to show some hopeful signs of being altered to follow the law. However, Seabulk and its employees clearly violated the law at the time of the allision and, to quote an old saying, "ignorance of the law is no excuse." Although the Captain escaped Coast Guard scrutiny on this point, and few scraps of paper from the boat survived the accident and a brief rain shower, the matter of establishing and conducting the watch played an important role in the lawsuit that followed.
By its own regulations, the Marine Safety Directorate appears to believe that a vessel like the OSV Seabulk Georgia can successfully operate on a 24-hour schedule on a voyage of less than 600 miles with a minimum complement of only 5 mariners. Consequently, this is the number the Coast Guard placed on the Certificates of Inspection of the Seabulk Georgia and hundreds of other OSVs. The owner of the vessel may use additional crewmembers if it so desires, but may not operate with fewer than five. The Coast Guard refused to divulge where the "600-mile" voyage figure came from even under FOIA. This provision has been on the books for many years, probably placed there as one of many concessions given to the owners of oilfield vessels. Whereas oilfield vessels must carry extra crewmembers on voyages over 600 miles, even this small safeguard does not exist for mariners who work on towing vessels and is jealously guarded even as the Coast Guard attempts to bring this class of vessel under inspection.

In a deposition after the accident, the Captain of the Seabulk Georgia was questioned about the manning on the OSV Seabulk Georgia. He stated: "I always thought vessels were undermanned. Because you cannot hold your watches like you want, like a professional captain would want...With all the activities going on running to rigs you get to the rigs, and you need your men up to help you tie up. Then you need someone on the watch. Then you have your engineering crew on the watch. We're doing all our pumping, never enough men."[48] The Coast Guard always seems to find it easy to ignore individual mariners. However, it will be more difficult for the Coast Guard, Congress, and industry to continue to ignore the crisis of undermanning that continues to plague our limited-tonnage mariners as the retention rate for mariners willing to work under existing conditions continues to lag. [113]

In his deposition, the Captain and Seabulk's expert witness, both with years' of experience, demonstrated a basic lack of understanding the statutes separating engine department from deck department duties. The Captain commented on his QMED as follows: "You take (name) — he shares duties, he's just an oiler right there. Officially he's a deckhand. He can work in the engineroom or if I assign him to go chip and paint, or sweep, or mop he can do this. He's a "Q" mate, he's a qualified mate of the engine room department, but he's still an oiler. They can divide (duties) among themselves, because when he's tired or the engineer's tired, either (of the two deckhands) is going to help him. They're going to do engineroom checks."[54] On undermanned oilfield vessels as well as on towing vessels, the natural instincts of crewmembers helping one another has become a matter of survival. As a result of operating short-handed, these vessels become more vulnerable to being overwhelmed by either the sea or fatigue from overwork!

The Company's Lookout Policy

The fact that the existing company policy allowed the mate to stand watch alone in the pilothouse for about 18 minutes before the accident led to an abrupt revision in its safety policy after the accident.

Seabulk's new policy breaks with oilfield tradition and more closely follows STCW Section A-VIII/2.15 that states: "The duties of the look-out and helmsperson are separate and the helmsperson shall not be considered to be the look-out while steering, except in small ships[15] where an unobstructed all-round view is provided at the steering position and there is no impairment of night vision or other impediment to the keeping of a proper look-out. The officer in charge of the navigational watch may be the sole look-out in daylight..."[15] Although Seabulk's "expert" witness justified the one-man bridge watch saying the Seabulk Georgia was a "small ship," nowhere in the rules does STCW define a "small ship." (2) The accident occurred just after two o'clock at night, not during daylight!]

Yet, even the revised company policy still allows the lookout to leave his post for a reduced period of up to 10 minutes to perform engine checks. While it is to the company's benefit to periodically check an "automated" engineroom, such a policy still reflects tradition and leaves an obvious and insupportable gap in lookout coverage.

Even more telling than its policy "clarification" in which Seabulk attempted to show that no fault existed the traditional system, is the fact that the pilothouse of the rebuilt OSV Seabulk Georgia contains two pilot chairs. This addresses the problem of how a person can stand lookout for endless hours on his feet at night in addition to working all day without resorting to sitting and eventually reclining on a traditional settee inconveniently set below the level of the windows in the pilothouse on many OSVs.

This accident illustrates why maintaining an effective watch has always been important. STCW's "Standards Regarding Watchkeeping" lays down definitive guidelines consisting of 106 steps. Maintaining a proper lookout is only one part of effective watchkeeping. In response to this accident in May 2001, our Association provided its
mariners with 45 Musts for Effective Watchkeeping and other important expectations for lookouts\(^1\) based largely upon previous court decisions. We believe that a watchstander must be instructed in all these points before standing an effective watch. \(^{[1]}\)\(^{[2]}\) Refer to NMA Reports #R-207, Rev. 1; #R-207-A; #R-207-B; #R-207-C.

"Crew Endurance"

Both the industry and the Coast Guard have had their heads in the sand far too long. At Coast Guard Industry Day in New Orleans on May 15, 1996 the speaker, Mr. William Sirois of Circadian Technologies spoke on the topic Alertness Assurance: The Key to Reducing Fatigue and Human Error in the Marine Industry. He prepared an excellent and descriptive set of materials that and distributed them to the 500 registered attendees mostly from the ranks of industry management and Coast Guard officials. Much of what he covered in very dramatic fashion seems to have missed its mark since fatigue and violation of the 12-hour rules continue to plague both the offshore oil and towing sectors of the marine industry.

On the OSV Seabulk Georgia, the QMED worked over 17½ hours in the 24 hour period before the accident...and most likely put in many additional hours in the wake of the accident.

For a dozen years, our Association protested frequent violations of the 12-hour rules that are supposed to protect our mariners. This problem is much less prevalent with “upper-level” mariners protected by union contracts and provided overtime pay for their work. Our protests were first aired June 2000 in our book titled Mariners Speak Out On Violation of the 12-Hour Work Day.\(^1\) We protest not only those situations where licensed officers are left to work over 12 hours in a 24 hour period but where “ratings” not protected by statute or regulation are exploited by their employers to work beyond 12 hours and whose fatigue makes a mockery out of existing safety and manning regulations. In his deposition, the QMED admits that there is at least a possibility that he could have prevented the accident if he had acted as full-time lookout in the pilothouse for Ronnie Chambers.\(^2\) Even the company Safety Manager believed the new policy of requiring a lookout during hours of darkness was safer than the old policy that left assigning a lookout up to the Captain.\(^3\) After all, a lookout has a definite function to perform and must not be detailed to perform other duties. \(^{[1]}\) Our Report #R-201. \(^{[2]}\) QMED deposition, p.102. \(^{[3]}\) Safety Manager’s deposition, pgs. 65-68.

The Coast Guard also has its head firmly planted in the sand. On May 15, 2000, less than three months before this accident, RADM Pluta, then Eighth District Commander and afterwards Chief of the Marine Safety Directorate wrote to Congressman Billy Tauzin in part: "I am writing in response to your letter of April 20, 2000 addressing the concerns raised by your constituent...regarding vessel operator fatigue and work hour limitations on commercial vessels...Although we receive very few complaints, either anonymous or attributed, of 12-hour rule violations, we strongly encourage...his colleagues to report these incidents to the nearest Coast Guard Marine Safety Office...Recently my staff conducted an informal phone survey of a cross section of the Eighth Coast Guard District Marine Safety Offices to get a feel for the volume of 12-hour rule complaints we receive. This survey indicated...(we)...received very few complaints involving mariners being forced to work more than 12 hours."

[NMA Comment: “Very few complaints” result from suppressing mariner “whistleblowers” who are “at will” employees and can be fired and “black listed” throughout the industry for reporting unsafe conditions.]

Shortly after we received a copy of this letter, we provided Admiral Pluta a copy of our "Yellow Book" with letters from 57 mariners with 12-hour rule complaints. The Coast Guard never investigated any of these complaints!

Our Association, using the tenuous Coast Guard “chain of command” available to us, also provided copies of our “Yellow Book” to three federal advisory committees, MERPAC, TSAC, and NOSAC that advise the Coast Guard. Of the three committees, only NOSAC even addressed the problem by tasking its "Prevention Through People" (PTP) working group. The working group, included our Association’s President Penny Adams and several NMA Directors, read and reviewed a number of studies on fatigue. When the subcommittee met on Nov. 7, 2001, a preliminary report titled U.S. Coast Guard Guide for the Management of Crew Endurance Risk Factors\(^1\) surfaced and became a key part of the discussion. This report went a long way toward explaining why the Coast Guard has such a serious problem retaining its own personnel. The parallel between the Coast Guard's own experiences with overworking its own seagoing personnel\(^2\) and problems faced by our mariners is unmistakable. \(^{[1]}\)NMA File #A771C. \(^{[2]}\)NMA Reports R-304, Rev. 1 & #R-305, Rev. 1.

While the Coast Guard’s policy letter clarification of the 12-hour rules went a long way to outlining the responsibilities of mariners, employers, and the Coast Guard, we make these points:

- **If a vessel works over 12 hours a day and is allowed to operate under the two-watch system, it should be**
provided with two complete and trained crews. The only other acceptable alternative is a three-watch system for both the deck and engine department.

- Watchstanders, including lookouts, must be trained before standing watch.
- Each crew must be fully trained to operate the vessel without calling out the other crew except in a true emergency.
- Anchoring, mooring or cargo handling should not be justified as an "emergency" measure. This ensures that meaningful assistance can be called upon and will be available if a true emergency arises.
- Under a “two watch” system, Mates must be utilized as watch officers and not as deckhands or oilers.
- Employers must be certain that Mates/Pilots are capable boat handlers before sending any inspected vessel out on a voyage.
- Any boat contracted for sustained 24 hour service must carry a trained cook to support the entire crew.
- All events including watch changes and actual working hours must be accurately logged. This includes logging all true “emergencies” that warrant interrupting the sleep of off-duty crewmembers and documenting compensatory time to replace lost sleep.

Example #4 – Tug Chinook’s Tow Damages Lake Washington High-Rise Bridge

Introduction

In promulgating its regulations\(^1\) the Coast Guard interprets the “12-hour rule statute”\(^2\) to mean that the vessel’s Master is responsible for establishing adequate watches.\(^2\) On a vessel with two licensed officers, federal statutes and regulations limit both the designated Master and his Mate/Pilot (i.e., the second in command) to working 12 hours in any consecutive 24 hour period. Consequently, the Master may establish a 6-hour on-duty and 6-hour off-duty watch schedule (6&6) although equivalents such as 12-and-12 or other time-balanced schedules are acceptable. \(^1\)46 CFR §15.705. \(^2\)46 U.S. Code §8104.

The hours-of-service abuse occurs when a licensed officer must perform additional or specified “work” beyond or outside of standing his watch. The abuse can be subtle or it can be blatant. In the case covered in this “example,” the Coast Guard thoroughly investigated this case and identified company policies as the a principal cause of the incident. More importantly, the Coast Guard stuck by their decision throughout the appeals process. In this case, the result of violating the “12-hour rules” was predictable whereby the Master admitted his guilt and reached a “settlement agreement” with the Coast Guard. The Coast Guard imposed an administrative penalty on the Master and suspended his license! But, there was more to this story!

The information that follows comes from the Coast Guard’s Marine Casualty Investigation Report furnished us under FOIA. We edited our original report\(^1\) to reduce its and to improve its readability. The Coast Guard redacted the names of persons involved in the accident, and, although names were prominently mentioned in Seattle newspaper articles following the accident, we followed the Coast Guard’s example. \(^1\)NMA Report #R-370-B, Rev. #4.

The Incident

At approximately 02:40 on July 29, 2000, the empty gravel barge NWA-100, while being pushed ahead by the tug Chinook, struck and severely damaged one of the pilings supporting the western high rise of the State Route 520 bridge spanning Lake Washington near Seattle. The SR-520 bridge is a mile-long pontoon bridge across a deep-water lake that carries heavy commuter traffic to and from Seattle. The damaged section, however, is part of a high-rise bridge supported on concrete pillars located approximately 0.3 mile south of Webster Point. The gravel barge pushed by the M/V Chinook struck the bridge while transiting from Kenmore, WA, en route to Pier 1 in Seattle.

Damage to the barge was limited to a slight dent and scrape on the starboard bow, while the tug Chinook suffered extensive damage to its mast, radio antennas, and radar antenna as it passed under part of the bridge. Damage to the SR-520 bridge consisted of cracking and separation of the southernmost piling in a series of six pilings supporting the western high rise of the bridge span, and resulted in closing one lane of the bridge for 11 days. There were no injuries or pollution.

The tugboat captain’s fast action at the last moment saved the bridge but damaged one bridge support concrete piling. One lane of traffic was closed for 11 days until the bridge repairs were completed. (This drawing is not to scale.)

As is the case with every “Serious Marine Incident”\(^1\) drug and alcohol tests were conducted on both the Master and his Mate with negative results. The accident closed one lane of the SR-520 bridge for 11 days aggravating the
commute for thousands of Seattle motorists. The initial estimate for the temporary repair of the bridge was $250,000 although final repairs to the bridge were reported in excess of $500,000. \cite{1} Defined at 46 CFR §4.03-2(a)(4) as damage to property over $100,000.

Vessel Particulars

The M/V Chinook, official number D299737 is a U.S.-flag, 60 foot, steel, twin-screw 1020 horsepower towboat, of 78 gross register tons built in 1965 in Reedsport, OR. It had a current, valid documentation certificate that would expire in Sept. 2000. The tug was outfitted with two (2) radars, VHF-FM radios, and a Fathometer. Both radars were on with one on standby at the time of the incident although neither radar was outfitted with a proximity alarm – nor were they required to be. Barge NWA-100, official number D298799, was a 237-foot, 1829 gross ton steel freight barge currently used to transport gravel. The barge previously had a Certificate of Inspection that the barge owner no longer maintained nor was he required to do so at the time of the accident. At the time of the incident, the visibility was unlimited; the winds were calm and variable at less than 3 knots with no seas; and the air temperature was 60-63°F.

Vessel Manning

The Master held a valid Operator of Uninspected Towing Vessels (OUTV) license with a valid radar endorsement as required by current regulations. His Mate held a valid Master, 1600 ton, near coastal license with a radar endorsement. The single crewman/engineer (“i.e., deckineer”) held a valid able seaman (limited) merchant mariner document with a lifeboatman endorsement.

Summary of Events.

At 01:50 on July 29, 2000, the Chinook departed Kenmore, WA, pushing the empty gravel barge NWA-100 en route to Pier 1, Seattle and crewed by three men – a Master, a Mate, and a deckhand/engineer. The Master and Mate usually split the navigation watch in a 6-hour watch rotation.

After picking up the barge in Kenmore at 01:50, the Master assumed the navigation watch, while the Mate remained below in his stateroom. The deckhand was on watch making designated rounds of the vessel.

\[\text{Diagram of accident site}\]
departing, the Master attempted to contact the bridge tender by mobile phone and left a voice message to arrange to lift the Montlake Cut bridges around 03:00.

The tug and barge proceeded down Lake Washington at a speed of approximately 7 knots. At around 02:30, while approaching Webster Point located 2,000 yards east of the Montlake Cut Bridge, the Master slowed the vessel to 5 knots and made another attempt to contact the bridge tender via VHF-FM radio but received no reply. The Master slowed the vessel again; this time to 3 knots to time his arrival at Montlake Cut Bridge with the 03:00 scheduled lift. The Master stated that he then started to make the turn around Webster Point. This is the last thing he remembered doing before suddenly seeing the bridge only 100 yards ahead of him.

The distance from Webster Point to the SR-520 bridge is only 600 yards. At a speed of 3 knots, it would have taken the Chinook 6 minutes to go from Webster Point to the SR-520 bridge. The Master remembers hearing a noise and then looking up to see the SR-520 bridge 100 yards ahead, with the tug and barge approaching the western high rise support pilings from the northeast. The Master reversed both engines at full astern to try to slow the vessel and its tow. Realizing they were not slowing fast enough to avoid the pilings, the Master turned the rudder hard to port and went ahead on the starboard engine and did succeed in turning the bow of the barge slightly to port.

This maneuver enabled the barge to miss the first five support pilings and possibly taking down the bridge! However, at approximately 02:40 to 02:45, the barge alighted with the last support piling, cracking its hollow cement structure.

Fortunately, the top of the Chinook’s pilothouse, at 43 feet above the water, was able to fit under the bridge deck but the mast, radio antenna, and radar antenna sheared from the top of the pilothouse as the tugboat followed the barge under the bridge. The Mate was awakened by the impact and immediately went on deck to see what happened. He then went up to the pilothouse to make sure that the Master was okay. As soon as the tug and its tow stopped, the Master backed the barge and tug out from under the bridge.

Seattle Harbor Patrol Unit 453 was on the scene within 15 minutes of the incident to assist and completed an incident report at 03:11. Afterwards, the Seattle Harbor Patrol escorted the boat and barge to Sea Coast Towing company moorings at 2700 West Commodore Way in Seattle.

“911” tapes secured from the Seattle Police show two calls received relative to the allision although they proved to be of little value. Reporting parties did not directly observe the incident but were only aware of it after it occurred. Shortly after the vessel moored, Coast Guard investigators held an initial interview with the Master, Mate and deckhand, the Sea Coast operations manager, and the company’s regulatory manager.

During the interview, the Master stated that he “may have fell asleep or blacked out” just before the allision. Drug and alcohol tests were conducted after this initial interview. The Master submitted to a physical exam on Aug. 4, 2000 with no evidence of a seizure disorder or cardiac abnormality detected during the exam. A secondary interview was conducted with the Master and Mate on Aug. 7, 2000.

On Aug. 11, 2000, the Coast Guard issued subpoenas to Sea Coast Towing, Inc. to produce the following items:
- vessel logs for the Chinook from July 1-26, 2000.
- payroll logs for the period of July 1-29, 2000.
- training guidelines or training plans for vessel operators and crewmen.
- training records for all three crewmembers for a 6-month period prior to July 29, 2000.
- vessel logs for the M/Vs Cascade and Glacier (e.g., two other company vessels) from July 15-31, 2000.

Findings of Fact

The Master had been a licensed operator for 27 years, had extensive experience operating towing vessels, and was on the sixth issue of his OUTV license. He made numerous trips in Lake Washington and the Puget Sound area during his employment with Sea Coast Towing and on other industry vessels. The Master's tour of duty consisted of 4 weeks on duty followed by 1 week off duty. He was into the 3rd week of his 4-week period on duty at the time of the allision. He was on the navigation watch during the transit from Kenmore to Montlake Cut at the time of the allision.

The company policy as stated in the Sea Coast Vessel Operations Manual, section 2.3.1 held that the licensed officer on watch was responsible for fixing the position of the vessel and plotting it on the appropriate chart in intervals of no more than every 30 minutes but time intervals between plots may be decreased at the master's discretion. However, no fixes or course track lines of the transit were plotted on the local chart.
Fulfilling the company’s chart-plotting requirements is difficult if not impossible and even inadvisable under the circumstances. Consider the need to maintain night vision in a dark pilothouse. Also consider the vessel’s proximity to shore, and the Master’s years of experience in piloting in this area using radar as an aid. Nevertheless, allowing his deckhand to be in the galley and not in the pilothouse serving as an effective lookout is the Master’s responsibility.

Current weekly Local Notices to Mariners were available to the Master and all other publications on the vessel were current. All navigation equipment onboard was available and operational at the time of the allision and no mechanical discrepancies or engine malfunctions aboard the vessel were noted or logged.

The Mate was asleep below in his stateroom. Although he held a 1,600-ton Master’s license, the Mate was not designated to act as a “Sea Coast Towing Co. Qualified Master” aboard the M/V Chinook. The Sea Coast Vessel Operations Manual requires the Master to be up and present during all landings and departures with a tow and for all transits of Lake Washington from Lake Washington Ship Canal to Kenmore; and all bridge transits.

The Mate, although an experienced mariner with a Master’s license, did not hold the company qualification as a “Qualified Master.” Company rules required the Captain who was a “Sea Coast Qualified Master” (although holding a lower license than his Mate) to be on duty while crossing Lake Washington.

The “Qualified Master” terminology is a company designation. At this point, it is important to note that Sea Coast Towing Co. is a member of the American Waterways Operators (AWO) and follows AWO’s Responsible Carrier Program (RCP). The RCP is a Safety Management System that the Coast Guard encouraged from its outset in 1995. However, even after the Coast Guard exposed the flaws in the system, the AWO chose to defend its member company in this accident and brought their views into conflict with the Coast Guard OCMI.

Coast Guard Analysis of the Incident

Coast Guard investigators determined that:

• Vessel logs for the previous 51 hours showed the vessel operated for extensive periods.
• Analysis and charting of the vessel’s logs with reference to watchkeeping indicated a strong probability of fatigue as the major causal factor in the casualty.
• The Master confirmed that he was on watch during all lock transits, bridge transits, transits of Lake Washington, and all barge drops, shifts, and pickups as required by the Sea Coast Vessel Operations Manual, sections 2.3.9 and 2.3.10. With the exception of the actual transit of Lake Washington, the Mate and deckhand were on deck assisting with line handling and other deck functions during all above evolutions.
• Over a period of 51 hours from midnight, July 27 to 02:45 July 29, the Master was off watch for a total of 20 hours and 15 minutes, most of which was a block of 13½ hours. However, a further breakdown of work hours from midnight, July 27 to 07:30 on July 28 show the Master on watch for almost 24 out of the 31½ hours.
• During the 24-hour period between 04:00 July 27, 2000 and 04:00 July 28, 2000, the master was involved in the operation of the vessel for at least 16 and possibly as many as 18 hours.
• The Master had a rest period of approximately 13 hours and 20 minutes prior to taking the watch for the voyage that lead up to the bridge allision. However, that rest period was interrupted by three instances where his participation in maneuvering evolutions was required. Estimating 15 minutes per evolution, the Master’s total rest period was only 12 hours and 25 minutes and with the longest uninterrupted period being 5 hours and 40 minutes.

USCG “crew endurance” studies determined that the human body requires 7 to 8 hours of uninterrupted sleep on a daily basis. This was impossible under conditions established by company policy.

The Sea Coast Towing (SCT) Vessel Operations Manual outlines specific times when the Master is required to be up and present on the bridge or on watch. Additionally, the SCT manual also identifies certain geographic
areas where the master must be present on the bridge or on watch. If the vessel is manned with a Mate that is
designated an “SCT Qualified Master” then the master's presence is not required.
• An "SCT qualified Master" is a Sea Coast Towing company classification for a person who is considered
qualified to serve as a Master for certain company vessels.

Reviewing the boat’s operational schedule, operating area, and manning, it is difficult if not impossible to comply
with the requirements of 46 U.S. Code §8104(h), that states: "No licensed persons shall work more than 12 hours in
a consecutive 24-hour period." The Mate, although he had a USCG Master’s license did not have the company’s
"SCT qualified master" designation. The company owns the boat and always has the right to decide which person
to place in charge of it as long as that person holds the appropriate license.

Conclusions
• The investigating officer concluded that the Master fell asleep while in charge of the navigation watch on the
Chinook and that fatigue was a major causal factor contributing to the allision. The master lacked proper rest as
evidenced by the vessel logs for the 3 days leading up to the allision. Log entries, confirmed by the Master,
indicated that he was either on watch, or available for 24 out of 31½ hours prior to the allision, and that he was
able to get no more than 5 hours and 40 minutes of consecutive rest during that period. It is probable that
chronic sleep loss, acute sleep loss, and circadian disruption were all factors in his fatigue.

[NMA Comment: Logbook entries are important factors to consider in any accident investigation. In 2010,
Congress amended its logbook statute to state: “The Secretary may prescribe by regulation requirements
for maximum hours of service (including recording and recordkeeping of that service) of individuals
engaged on a towing vessel…” To date, the Coast Guard has not proposed any such regulatory change.]

• A physical examination conducted on the Master did not indicate any medical conditions that were causal factors
contributing to the allision.
• This vessel's operations and operational area contributed to the Master's lack of proper rest and was a contributing
factor in the casualty. The vessel’s main operations involve relatively short distance tows, transits through locks,
bridges, and restricted areas, and several barge pickups and drops. In order to comply with the Sea Coast Vessel
Operations Manual, the Master was required to be in attendance on the bridge during all of the evolutions
listed above. Consequently, this type of operation minimized opportunities for adequate rest periods.
• Sea Coast's requirements for vessel masters to be present in accordance with their vessel operations manual
was a contributing factor in this casualty. With two licensed officers on the vessel, the normal watch rotation is
6 hours on and 6 hours off as stated by the Master for a total of 12 watch hours per 24 hour period. Sea Coast's
requirement for the Master's presence on the bridge during certain operations and in certain geographic areas,
increased the time the master was on the bridge, and exceeded the work hour limits established by law and did
not comply with statutory hours-of-service requirements.

The Investigator’s Recommendations
1. The Coast Guard (should) initiate an investigation of the Master for the following: (a) Negligence: Falling asleep
while on watch and failing to properly navigate his vessel, causing it to allide with the SR-520 bridge; (b) Violation
of Law: Violation of 46 U.S. Code §8104(h), in that the Master worked in excess of 12 hours in a consecutive 24-
hour period. (c) Misconduct: Violating Sea Coast Towing Company policy by not properly fixing and plotting the
vessel's position as required.

2. The Coast Guard (should) initiate civil penalty proceedings against Sea Coast Towing for violation of 46 U.S.
Code §8104(h) for not ensuring their licensed personnel do not work more than 12 hours in a consecutive 24
hour period.

3. Sea Coast review their Responsible Carrier Program(1) manual, specifically sections which mandate the
Master's presence on the bridge in certain evolutions and geographical locations. The manual must address
possible conflicts between this requirement and the 12 hours in 24-hour period work hour limitation. Eliminating
or modifying this requirement may reduce the number of hours the Master is required to be awake and available,
reducing the likelihood of fatigue and ensuring compliance with 46 U.S. Code §8104(h). (1)Since Sea Coast is a
member of the AWO, and follows their Responsible Carrier Program. AWO decided to convene a “Quality Action Team” (QAT) to look into this accident. Our Association later examined and commented upon the smokescreen resulting from this QAT reporting. Refer to NMA Report #R-370-B, Rev. 4, pages 8-11.

4. Sea Coast incorporate review procedures for vessel logs at the operations manager level or higher to ensure compliance with federal regulations regarding allowable working hours for licensed personnel. There was no log review procedure in place, with the exception of that done by the billing/payroll departments. With limited knowledge of vessel operations or federal regulations, review at this level would be insufficient to determine non-compliance with federal regulations by vessel personnel.

[NMA Comment: Officers often record important problems they encounter on the job in their rough logbooks. We assert that Management does not perform its job effectively by not having qualified management personnel review vessel logs on a regular basis.]

5. Sea Coast should review company policy relative to the manning of vessels with similar operating requirements and areas as the tug Chinook. The company's internal qualification requirement (e.g., “SCT Qualified Master”) necessary for a Mate to operate alone in all areas and operations unduly burdens the Masters of those vessels, requiring them to attend to the operations of the vessel during their designated rest period. This practice has an even greater impact on vessels engaged in short voyages through congested waterways, like the Chinook. On these vessels, only SCT Qualified Masters should fill the Mate's position, eliminating the necessity for the Master to supervise vessel operations during his designated rest period.

6. That this investigation be closed. s/Chief Warrant Officer, Investigating Officer.

[NMA Comment: In comparable Western Rivers towing operations, a company may require that the vessel's Master be physically present in the pilothouse during certain specific events such as passing under certain bridges or making certain “bends” or challenging river features even when he is off duty. Our Association recognizes that this problem is national in scope.]

[NMA Comment: A “two-watch” system, by its very nature requires that each watch officer be fully capable of and responsible for navigating the vessel during his watch. An excellent example of what can happen if an officer is not properly “posted” or capable of performing a difficult maneuver is contained in NMA Report #R-399 that led to a bridge allision on the Illinois Waterway.]

Endorsement by the Officer-in-Charge Marine Inspection

[I] Concur with findings of fact and conclusions of the investigating officer.

Recommendations:

1. Concur.
2. Concur.
3. Concur. Company requirements published in the Sea Coast Towing, Inc. Responsible Carrier Program Safety Manual, Chapter 2, for the master to attend to certain vessel operations when not on watch, causing him to work more than 12 hours in a 24-hour period, clearly meet neither the letter nor spirit of the Coast Guard regulations covering work periods. Furthermore, this policy conflicts with the company's own policy, published in the same chapter, requiring masters to work no more than 12 hours in a 24-hour period. For this safety manual to serve the intended purpose, these types of conflicts, both with Coast Guard regulations and with other company policies, must be eliminated.

4. Concur. Sea Coast's attempt to ensure that persons operating their vessels were qualified to do the job is laudable, but ultimately flawed when a proper relief is not provided to reduce crew fatigue. Burdening the Master with supervising vessel operations during the Mate's watch in addition to standing his own watch may ensure safe operations on the Mate's watch, but it comes at the expense of fatigue for the Master. This problem is exacerbated when a vessel operates on a short route through restricted waterways and requires constant supervision by the master – as was done on the night of the allision. Ensuring that all Mates, especially those operating vessels on this type of route, are "SCT Qualified Masters" will eliminate one factor in the fatigue of the vessel masters.
Use of a three-watch system instead of the current two-watch system is another alternative to be considered in some circumstances.

5. Concur. A routine review of vessel logs by company managers should be standard procedure. Without such a review there can be no monitoring of compliance with regulations and company policies regarding work hours. Greater oversight of personnel scheduling could have identified the conflicts described in paragraph 3 above, resulting in corrections before this casualty occurred.

6. Concur. I recognize there are ongoing international and domestic efforts to improve crew endurance in the marine industry through scientific research. These efforts involve the Coast Guard, the International Maritime Organization and various organizations and companies within the maritime industry. The most recent step in this ongoing effort is the publication of Coast Guard policy (G-MOC #04-00, Change 1) that clarifies watchkeeping and work-hour limitations for towing vessels, offshore supply vessels and crewboats utilizing a two-watch system. This incident highlights the importance of these efforts. Although this investigation focused primarily on the actions of the Master and one towing company, there is potential for safety improvements beyond the involved company. To realize this potential, it is necessary to aggressively audit local towboat company watchkeeping and work-hour policies and procedures for regulatory compliance and to promote best industry practices. Lessons learned will be appropriately shared via the "Vessel Safety Alert" program managed jointly by the Coast Guard and the American Waterways Operators. Case closed. s/ Captain, USCG, OCMI.

The Master’s Day in Court

In this case, the Coast Guard charged the Master with:

- **Negligence**: Wrongfully failing to properly navigate his vessel and falling asleep while in charge of the navigation watch.
- **Misconduct**: Wrongfully violating Sea Coast Towing, Inc’s policy by failing to properly fix and plot the vessel's position as required.
- **Violation of Law or Regulation**: Wrongfully violating 46 U.S. Code §8104(d) by working more than 12-hours in a consecutive 24-hour period.

The Master hired an attorney to represent him in the administrative law proceedings that followed. Several weeks before the hearing date, the Master entered into a settlement agreement with the Coast Guard for two-months outright suspension of his license with 6 months remitted on 12 months probation. The Master deposited his license with the Coast Guard the following day. Following the agreement, the Master's license was reinstated on Jan. 30, 2001 with one year's probation.

The Company’s Day in Court

The investigation report showed that legal action was possible against Sea Coast Towing, Inc., owner of the towing vessel, in that the company failed to ensure that the Master did not work more than 12 hours in a consecutive 24-hour period. The report shows 0.1 hours was spent in "investigation, 0.1 hours in "administration," and that there were "no charges filed" against the company.

[NMA Comment: Although our Association originally noted the disparity between the treatment of mariners and corporate entities, only by pressing for more information, did we discover that the Coast Guard later filed charges against Sea Coast Towing and that Sea Coast appealed its Civil Penalty.]

According to newspaper reports, the President of Sea Coast Towing and the Master mutually agreed shortly after the accident to place the master permanently on shore duty as a port captain. "He's getting older. Maybe he doesn't need to be out there any more; that's the way he characterized it," the President said. In any event, we learned that the Master’s 30-year career on the water ended.

What Our Association Learned and How We Finally Learned It

Several months after the incident, our Directors attended a MERPAC meeting in Seattle where this story was still making front-page headlines. Our delegation of six inland and offshore mariners visited with the reporter of the Seattle Post-Intelligencer who covered the story. We reviewed the Coast Guard accident report, and provided our views on mariner fatigue to the press at the time.

However, in Feb. 2000, almost 3½ years after the incident, we learned that there was “something new” in the Chinook case on the internet – only to find that the internet entry was withdrawn for some reason. Our best efforts
initiated through the Coast Guard’s FOIA office turned up absolutely nothing. Finally, in Oct. 2004, we contacted the Coast Guard Hearing Office in Arlington, VA, discussed the matter, and soon thereafter we received file # MV01002491 on Sea Coast Towing.

The file shows that the Coast Guard reviewed the logs of the M/V Chinook for three weeks preceding the accident and determined that nine (9) violations of the 12-hour rule occurred during that period and filed a “Civil Penalty” case against Sea Coast Towing.

The attorneys for Sea Coast contended that “if...the marine employee (e.g., the Master) is not compelled by his employer to work in violation of the law, but chooses unilaterally to violate the law...the statutory intent is equally clear: the individual decision-maker will be deemed the violating party.” In other words, the Captain was to blame!

The towing company also contended that “…vessel owners cannot reasonably be held responsible for the independent decision of their officers at sea...” and that “Section 8104 was not drafted with the goal of penalizing tug owners and operators for the independent errors of its sea-going officers.”

The Coast Guard Hearing Officer found Sea Coast’s arguments “unpersuasive,” did not agree with their attorneys’ interpretation of the law, and stated in part: “When the subsections in 46 U.S. Code §8104 are read together, the intent of the statute is clear: that owners, charterers, or managing operators be responsible for violations of the watch requirements. In addition, the section attempts to protect the licensed officers and seamen to which it applies by ensuring that, in situations where the requirements of the statute are not met, such seamen will be ‘entitled to discharge from the vessel and receipt of wages earned’

The Coast Guard Hearing Officer also noted: “Based upon the clear language of the statute, the Master cannot be responsible for the instant violation. Instead...only the owner, charterer, or managing operator may be held liable for the violation. Regardless of whether Sea Coast educated its Masters about the work requirements set forth in 46 U.S. Code §8104, it is Sea Coast itself, who will be responsible for such violations. I believe that, if accepted, your interpretation of the statute would have a stifling affect on the maritime community. If Masters were held responsible for violations of the watchstanding requirements, vessel operators would be given free reign to acquiesce to such violations...there would be no impetus on the marine employer to ensure that the watchstanding requirements were met.”

We found the Hearing Officer’s ruling particularly interesting because the Master was following written company instructions – instructions reportedly based on the AWO’s Responsible Carrier Program (RCP). The AWO later assembled a Quality Action Team (QAT) meeting based on their “partnership” with the Coast Guard and attempted, unsuccessfully, to raise a smokescreen so their members would not be obliged to increase the size of their crews on vessels in 24-hour service.\(^1\) Our Association’s objections to this tactic are recorded in NMA Report #R-379-B, Rev. 4 starting on p.8]

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**Example #5 – Collision Between a Tug and an OSV**

*Source: Misle Activity #1638436, Misle Case #87811, MSO Port Arthur, TX. NMA File #M-281.]

On June 27, 2002 at about 4:00 PM in broad daylight in calm water with good visibility, the tug La Madonna running inbound to Port Arthur, TX light boat and traveling at 11 knots slammed into the side of the 145-foot mini supply boat Greg Danos. The OSV Greg Danos was bound offshore to High Island Block 305 with a crew of four on board.

Because of this collision, the mini-supply boat, less than one year old at the time of the accident, sank in 36 feet of water eight miles offshore from Cameron, LA. There were no fatalities on the OSV, but the extent of the damage was reported in excess of $750,000. Although the accident resulted in the spill of 800 gallons of diesel oil from the port day tank, there was a much larger potential to spill up to 24,000 gallons. Thankfully, the fuel tanks on the OSV Greg Danos were fitted with check valves that controlled the release from the main tanks that were not breached.

[NMA Comment: The Coast Guard investigation failed to formally assess blame for the accident or to formally assess who was serving as “lookout”\(^1\) as required by International and Inland Rule 5 that states: “Every vessel shall at all times maintain a proper lookout by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and the risk of collision. On an undermanned vessel, the easiest duties for a Master to bypass are those of the lookout.]\(^1\)[Refer to four NMA Reports in the #R-207 series on lookout duties.]

Although the Coast Guard took no enforcement action in this case, the one revealing comment in the report’s
Causal Analysis section states: “Active human failures – Execution Errors – Attention Failures – Inattention errors… the Pilot of the M/V La Madonna… His attention should have been on the job.”

The Master of the M/V Greg Danos indicated that he “Saw him at one mile (and) thought he would pass astern” and “…Didn’t notice vessel until the collision.” We were told by an informant that one of the vessels had nobody in the pilothouse at the time of the collision and that one of the vessels was short one licensed officer although we could not verify this report. The Coast Guard accident report makes no mention of conducting any license or logbook check or even visiting the accident scene or personally discussing the accident with crewmembers. One document, the Situation Report or SITREP, included in the package may explain that by this excerpt: “Media interest: No local interest.”

Our Association asserts that a $750,000 accident, if properly and thoroughly investigated, should have aroused some interest and concerns for safety in the industry and contains important lessons for mariners as well as management!

Both vessels were in 24-hour service with minimal crews. Crew statements indicated that the tug’s Master, who was in the head at the time of the accident, reported that he had eight hours of sleep but “not good sleep…it was rough.”

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Example #6 – The Miss Amanda Incident

[Sources: NMA Report #R-370-M. NMA file #M-170; MET – MTV pgs. 32-33]

For many companies, the "two-watch system" that includes a 12-hour workday is little more than a subterfuge that allows them to exploit their maritime employees by undermanning their vessels and pocketing the savings. 46 U.S. Code §8104(h) clearly states: "On a vessel to which section 8904 of this chapter applies (i.e., towing vessel greater than 26 feet in length), an individual licensed to operate a towing vessel may not work for more than 12 hours in a consecutive 24-hour period except in an emergency". Similar laws and regulations apply to other vessels as well and working officers more than 12 hours per day has been a very common practice in many parts of the country and is not confined to towing vessels.

The consequence of working mariners to the point of exhaustion is quite predictable. That's why the following story, taken directly from a Coast Guard accident investigation, is not particularly remarkable but should serve as a warning to all employers of limited tonnage mariners.

On the Miss Amanda

At approximately 23:45 on 27 Nov. 1995, the light tug Miss Amanda collided with the tow of the Matador IV near mile marker 105 of the Gulf Intracoastal Waterway. The barge Matador and the light tug Miss Amanda sustained damage while the tug Matador IV reported no damage. There was no pollution associated with this marine casualty although one crewman alleges he was injured on the Miss Amanda.

The Miss Amanda had departed Morgan City, LA, the previous day at approximately 12:00 bound for Lake Arthur, LA, pushing one empty barge. The Miss Amanda left Morgan City with two persons aboard, one licensed Master and one tankerman. The Miss Amanda did not arrive at Lake Arthur until 09:15 the next day (Nov. 27). According to Captain A., he only received approximately two hours of sleep during the westbound transit. While the Master slept, he relinquished the controls of the Miss Amanda to his tankerman, Mr. T.

The Miss Amanda departed Lake Arthur at approximately 09:15 on Nov. 27 bound for Morgan City running light boat. During the eastbound transit, Captain A. received approximately ½ hours of sleep. While he was sleeping, Captain A. again turned the controls of the Miss Amanda over to the tankerman.

On the Matador IV

At approximately 22:30 on 27 Nov. 1995, the Matador IV departed Berwick, LA, across the Atchafalaya River from Morgan City, pushing one empty tank barge (Matador VII) bound for Hog Bayou to take on 800 barrels of crude oil and return to Berwick. At approximately 23:40 the Matador approached Mile Marker 104 westbound on the north side of the Intracoastal Waterway.

At approximately the same time, Captain A. was at the controls of the Miss Amanda passing Mile Marker 106 eastbound on the Intracoastal Waterway. Captain A. remembers looking at his watch at 23:40. Captain A. stated that he saw a tug and tow (i.e., the Matador IV and its tow) approaching from the east approximately two miles ahead. Captain A. reported he started lining up for a port-to-port passage with the tug and tow. At this time, Captain A. indicated he was transiting the area making good a speed of 7 knots. The current was setting to the west at 2 knots.
Captain S. on the Matador IV saw the Miss Amanda on the south side of the Intracoastal Waterway. Captain S. indicated everything looked like a port-to-port passage as he headed westbound making 9 knots. Captain S. indicated that approximately two to three minutes after sighting the tug, the Miss Amanda turned toward him. Captain S. tried to call Miss Amanda on his VHF-FM radio with no reply.

Captain S. then attempted to get the Miss Amanda's attention by shining his spotlight into the wheelhouse but saw no movement in the wheelhouse of the other vessel. Captain S. turned hard to starboard but could not avoid striking the light tug. Captain S. indicated that if he had turned to port he would have hit Miss Amanda broadside.

Captain A. on Miss Amanda remembers hearing the sound of whistles and stated that he looked up and saw the collision take place between his tug and the Matador IV's tow (port bow to port bow). Captain A. indicated that he was just north of mid-channel at this point, looked at his watch and noticed the time was approximately 23:45. Captain A. tried to turn his wheel to starboard but stated that the steering did not work. Captain A. went to the engineroom and reportedly re-set the steering pumps, at which time the steering worked.

Both tugs pushed up to the bank at Mile Marker 105 of the Intracoastal Waterway to survey the damage. According to Captain S. on the Matador IV, the tankerman on the Miss Amanda jumped over to the barge Matador VII and started running around shouting at Captain S. that he was going to sue him and wanted a camera so he could take pictures of the damage. Captain S. remained in the pilothouse to avoid conflict with the angry tankerman.

The investigating officer arrived on the scene at approximately 01:48 with the Acadian ambulance crew, one pollution investigator and two Coast Guard personnel. The injured crewman was located lying on the bridge console complaining of neck and back pain and was taken off the tug Miss Amanda and transported to Lakewood Hospital in Morgan City. Drug and alcohol tests were conducted by both companies with negative results.

The vessel documentation for all three vessels and both operators involved was found to be in order. The pollution investigator found no evidence of pollution. The statements of both operators were consistent with one another. The damage aboard the barge Matador VII and the tug Miss Amanda was consistent with the statements of both operators. The relative speed of both vessels (16 knots) is consistent with the operators' statements of what the vessel positions/times were prior to the collision.

Based on the statements of both tug operators and the crewman aboard the Matador IV, the investigating officer does not believe any injuries were sustained by the tankerman on the Miss Amanda.

The apparent causes of the collision were…

- The operator of the Miss Amanda **failed to remain awake** while at the controls, causing the Miss Amanda to collide with the Matador IV's tow.
- The operator of the Miss Amanda **failed to keep a proper lookout**, in that he fell asleep while approaching Matador IV and its tow.
- The operator of the Miss Amanda **failed to take early and substantial action to avoid collision**, in that the operator was asleep at the controls while in an extremis situation.
- A licensed Captain allowed an unlicensed individual to operate the Miss Amanda three times in two days.
- The tankerman, a documented mariner, operated a tug without a proper Coast Guard issued license three times in two days.
- The **company hired an unlicensed mariner as deckhand to operate tug without a proper Coast Guard issued license**.
- The port bow of barge was dented with a small hole on main deck near the dent with the approximate amount of damage to barge, $5,000. Damage to tug included damaged bow rake, buckled main deck at the forward portion of the bow, dented port bow, small hole near port bow on main deck, crack in main deck near port ladder-bow rake. The estimated cost to repair the damage was $10,000.
- **(Captain A.) was the only licensed operator on a transit of more than 12 hours for two days and had only a 2½ hour break of which only two hours were spent in sleep during the 24-hour trip to Lake Arthur.** During the eastbound transit, he had 1½ hours of sleep during the 14½-hour transit prior to the collision. [Editorial note: Total sleep = only 3½ hours of sleep in 35¼ hours. Unfortunately, the Coast Guard investigator made no mention of what duties Captain A. performed before he left on his ill-fated voyage to Lake Arthur.]

**Disposition**

Like a great many accident reports we obtained under the Freedom of Information Act, there was no indication of the disposition of this case.
Undermanned Enginerooms on OSVs

In 2001, (1) we wrote to the Chief of Marine Safety regarding our concerns about inadequate manning on offshore supply vessels. We enclosed copies of four Certificates of Inspection (COI) for supply boats operating in the Gulf of Mexico. Our concern focused on inadequately manning these vessels on voyages of less than 600 mile. We concluded that the Coast Guard’s Certificates of Inspection (COI) made no provision whatsoever for engineroom manning.

This practice does not square with the reality of operating vessels this size including a total lack of concern for safety. Unfortunately, many Coast Guard COIs do not fit international requirements for “safe manning” certificates in that they only serve to appease the corporate greed of boat owners and take precedence over the need to adequately protect the safety and well being of the mariners who serve on these vessels.

The Coast Guard permits these offshore supply vessels in 24-hour service to be manned by only four (4) crewmembers although none of the crewmembers including the officers is required to have any training as a vessel engineer. Moreover, COI leaves the care, operation, and maintenance of the main engines, ranging from 1,800 to 2,250 horsepower unassigned. The effect is to leave the Master of the vessel short of crewmembers.

When assigning watches, the shortage of trained engineers means that engineroom duties including pumping fuel and handling noxious liquid cargo are assigned to persons who may have little or no demonstrated capabilities, training, or mechanical aptitude. Often, a licensed deck officer is called upon to perform engineroom maintenance and repairs in addition to other duties and in violation of work-hour regulations. If the vessel exceeds 100 tons, the officer also violates a statute (1) that prohibits a seaman from working alternately in the deck and engine departments.

Consequently, a deck officer may have to perform duties in the engineroom or supervise pumping diesel fuel or other noxious liquid or bulk solid substances on deck – loading the vessel, unloading the vessel, or transferring the cargo at an offshore location at any time as well as maintain or repair the engines and a wide variety of auxiliary equipment if he knows how to do so. The Certificates of Inspection our Association reviewed overlook these realities.

The engineroom is a dangerous place for people who don't know what they are doing or what they are supposed to do. Our Association pointed this out in a 2006 Report to Congress. (1) [NMA Report #R-428, Rev. 1.]

While underway, the Master's or Mate's position must be in the pilothouse. This leaves an able seaman or an ordinary seaman to handle all deck or engineroom duties alone – unless he wakes an off-duty crewmember. Not only do diesel engines operate the vessel's propulsion, they also power both its generating and pumping equipment. Although a licensed engineer is not required on a vessel of less than 200 gross tons, no certificated engineroom personnel with even basic "oiler" qualifications was provided for in the vessel manning requirements.

On two of the vessels, we noted that only a "licensed deck officer" would be available to serve as the designated person-in-charge when transferring fuel oil or petroleum based liquid mud as the vessel was not required to carry a person with a tankerman endorsement or a licensed engineer since the vessel at 196 gross tons was slightly less than the 200 gross ton threshold required for a licensed engineer. It is fair to ask how a single licensed officer on duty on a "two-watch" vessel is supposed to properly supervise fuel or oil-based liquid mud transfer when his duty station is in the pilothouse and the transfer takes place down on deck? It is one thing to be on the scene and properly supervise the transfer; it is another thing to be "designated as a Person in Charge" and accept blame if a spill occurs. We can understand why a licensed deck officer is reluctant to do this, risk an oil spill, and risk losing his license. An officer on one of the four OSVs cited above preferred to report to our Association rather than "complain" to his employer and place his job in jeopardy.

On the third OSV, we noted the same absence of any assigned engineroom personnel. We also noted that "...the
specified manning level is contingent upon the proper operation of the engineering automated control/monitoring systems..." This requirement is the crux of another serious manning problem prevalent on OSVs as well as on towing vessels. This statement indicates that some person, other than the licensed officer on watch, must be available to respond to engine alarms 24 hours per day. Considering a high personnel turnover rate and lack of formal engineer training prevalent in the industry, this person, more than likely has little more than a passing knowledge of the engineroom and its equipment including sophisticated electronic alarm systems. Perhaps the only persons with knowledge or experience are the licensed officers – and the prevalent experience tells them to turn off the alarm or send a deckhand to “take a look.” Of the vessel’s two licensed officers, one is on duty in the pilothouse while the second officer may have to be called out to assist the deckhand with any problems in the engineroom and put in additional hours of work beyond his watch. This may interrupt his rest or violate the 12-hour work-hour statute and should not be permitted since the problem stems from insufficient manning that may (or may not) lead to a genuine emergency.

There is also an implicit assumption that one deckhand is capable of tying up a large offshore supply vessel alone – not only to a dock but also to an offshore platform or to a buoy in any weather conditions. This can be unsafe if, for example, the deckhand must carry the line ashore and slips and falls in the water or if he gets in trouble on deck at sea with nobody else available on deck to assist him.

While all of these evolutions may be possible on an undermanned vessel, they are neither safe nor practical. The crew listed on the Certificates of Inspection for these vessels can be expected to routinely violate work-hour statutes and regulations or be called out any hour of the day or night on an "emergency" basis. However, we assert that these are not true emergencies. Rather, they are manmade examples of poor planning and undermanning.

Our complaint lies not only with the boat owners and trade associations that push for insufficient manning levels that abuse their employees but also with the Coast Guard that displays so little knowledge of how these vessels really operate in domestic 24-hour service that they freely and without question issue such certificates. Coast Guard officers rarely, if ever, ride the vessels and base their knowledge on second-hand information – mostly provided by management or trade association sources.

Most troubling of all, it is unfair to our limited-tonnage mariners who work these vessels as well as being unsafe! The fact that two of these four offshore supply vessels at the time operated under the "Streamlined Inspection Program" further illustrates how the Coast Guard simply rubber-stamped these practices year after year without question…. “to level the playing field.” Well, our mariners are the players on that playing field and also deserve consideration.

As an association whose legitimate purpose is to represent the safety interests, we asked the Coast Guard District Commander (then RADM Pluta) to investigate this situation and assert that manning inspected offshore supply vessels and towing vessels must be thoroughly and completely re-evaluated by the Marine Safety Directorate with an eye to requiring proper and safe manning of all vessels in domestic service.

Example #1 – The OSV Cheramie Botruc 26 Sinks With Two Fatalities

We also pointed out that one of the four OSVs cited in our letter of Feb. 11, 2001 to Admiral Pluta, the OSV Cheramie Botruc 26, sank in the Gulf of Mexico with the loss of two lives.(1) At the time of the sinking, the vessel's owner did provide one “extra” crewmember above and beyond that required on the vessel's COI. That person, who was only an ordinary seaman, apparently was assigned to serve as an unlicensed engineer. The cause of the sinking, according to transcripts of the hearing, was the failure of the engineer to close engineroom doors in bad weather and the failure of the alarm system to alert the persons on watch in the pilothouse that the engine-room doors were open. [(1)Refer to NMA Report #R-208.]

Example #2 – Death of River Towboat Chief Engineer Gary Duncan

The work-hour abuses of limited tonnage mariners reached a crisis and attracted public attention with the Interstate 40 bridge collapse at Webbers Falls, OK. Work-hour abuse is widespread in the enginerooms of tugs, towboats, and OSVs. This details the death of Chief Engineer Gary Duncan. The case stemming from his death was decided by a jury verdict in 2002 and awarded his estate almost a million dollars.

It is unfortunate that some employers are so blind to the human needs of their employees that they only respond with an assault on their “bottom line.” We regret that the message this verdict rendered by a jury of ordinary citizens sent to the marine industry never attracted enough attention in the Coast Guard or the marine industry to bring about increased manning and training for engineroom personnel.

14-2
[NMA Comment: In Sept. 2004, Congress directed the Coast Guard to bring towing vessels under effective inspection standards. Unfortunately, if Congress intended those standards to include effective manning standards, the NPRM released in Aug. 2011 shows that the Coast Guard never received the message.]

Background

This case was brought by the widow of a licensed engineer in her individual capacity and as representative for the Estate of her deceased husband under the Jones Act for the death of her husband suffered in the course of his employment with American Commercial Barge Lines, LLC. (ACBL).

The decedent, Gary Duncan, was working as a chief engineer when he died of a sudden cardiac death on May 31, 1999, while taking a break in the engine control room on ACBL’s towboat, the Miss Kae-D, while it was pushing barges on the lower Mississippi River in Louisiana.

Chief Duncan had worked for 24 consecutive days, 15 days of which were spent working without the assistance of another engineer. As the chief engineer, he was responsible for inspecting, maintaining, repairing, and cleaning the engineroom and its components, including three diesel locomotive type engines that powered the boat. In the hour before his death, he was assisting removing a 200-lb. power pack (reportedly the eleventh such power pack), in ambient engine room temperatures exceeding 125 degrees F. He was required to work more than 12 hours a day during irregular work and rest cycles, typically alternating periods of 6 hours on/off – that did not violate any published statute or regulation as this was an “uninspected” vessel, operating on the western rivers, and – although one of the largest towing vessels in river service – did not require a “licensed” engineer. Chief Duncan often was awakened from sleep by engine alarms that required his immediate attention.

[NMA Comment: The Coast Guard promulgated NVIC #1-69 titled Automated Main and Auxiliary Machinery in 1969 to recognize an “…evolution from manned to unmanned enginerooms as proposed by the industry.” We have no evidence that either labor unions or limited tonnage mariners ever provided input used in preparing this “guidance” that allows alarms and automated features to replace watchstanders in the engineroom or in an engineroom control station. Unfortunately, a human being must answer an engine or bilge alarm whenever activated day or night on any vessel in 24-hour service.]

Gary Duncan’s typical work cycle was 40 days on the boat and 20 days off, which was consistent with industry standards. The company, ACBL, argued at trial that since its practices were consistent, that it was not negligent.

The company denied liability and argued that the death was a natural event caused by years of smoking, diabetes, family history, and high cholesterol levels that were not work-related. A co-worker, who resigned after Gary’s death, and the plaintiff’s maritime expert testified that the boat should have been manned by 2 to 4 full time engineers scheduled on regular watches, like the rest of the crew, so as to allow for uninterrupted sleep. The Valley Line, the company that previously operated the boat, used a larger engine crew for this vessel when it was in 24-hour service. The crew size was cut as an economy move after ACBL acquired that company and its vessel and crew. Requests by the crew for additional assistance were denied. Both the expert witness and Gary’s co-worker testified that the manning levels used by ACBL were inadequate, unsafe, and violated industry custom and practice.

The autopsy report showed significant coronary artery disease and concluded that it was a major cause of death. However, Chief Duncan’s medical expert testified that the significant work stressors and sleep deprivation were contributing causes of both the acute cardiac event and the development of coronary artery disease.

Mrs. Mary Duncan submitted damages for lost economic support in the form of wages, benefits, and household services and for damages suffered by her husband prior to death for chronic psychological distress. The decedent’s economist suggested that the economic loss was about $850,000.

The decedent’s counsel noted that these “customary” practices were the subject of recent national and local media scrutiny following the Oklahoma bridge tragedy at Webbers Falls on the Arkansas River but that regulation of the industry is weak and laws often are not enforced.

[NMA Comment: We urge Congress to address unsafe work hour and workplace conditions that far exceed those seen in other industries. Although the industry acknowledges the 12-hour laws that limit the hours of
service of licensed deck officers, they refuse to acknowledge the need for comparable limitations for
crewmembers, such as engineers, deckhands, cooks, tankermen, and “deckineers” who face similar work stress,
fatigue, and safety concerns.]

Example #3 –In Search of Justice for Disabled OSV Chief Engineer Leon Manderson

Leon Manderson vs. Chet Morrison Contractors

Our Association is in search of justice for Chief Engineer Leon Manderson whose career ended as a result of illnesses he contracted or exacerbated while aboard the M/V Jillian Morrison – referred to by several mariners who served on her as a dangerous and overcrowded, floating cesspool.

Our Association’s Directors learned that significant issues affecting the health, welfare, and safety of our limited-tonnage merchant mariners would have to be decided in a lawsuit months before the case went to trial.

We requested and were given access to read a number of pre-trial depositions that were taken in preparation for the trial of Leon Manderson vs Chet Morrison Contractors (hereinafter “Chet Morrison” or CMC). We were invited to attend the trial held before Judge Richard T. Haik, Sr. in U.S. District Court for the Western District of Louisiana, in Lafayette, LA on May 24-25, 2009. [1]Note that our reference to “Chet Morrison” is to Chet Morrison Contractors, Inc. and not to the company’s CEO.]

Attorney Mark L. Ross, Esq. represented Chief Engineer Leon Manderson at trial. We were favorably impressed with Mr. Ross’ thorough pre-trial preparations and with his representation of Chief Engineer Manderson during the trial itself. However, we were acutely disappointed with many of the District Court’s subsequent decisions as well as by those of the panel of three judges at the Fifth Circuit Court of Appeals in New Orleans. [1]Mark L. Ross, Esq., 600 Jefferson St., Suite 512, Lafayette, LA. 70501. Telephone 337-266-2345; Fax # 337-266-2345.

We came away with the distinct impression that the trial judge had not done his homework. Consequently, we were not surprised that Attorney Mark L. Ross filed a timely notice of appeal from the final judgment to the U.S. Fifth Circuit Court of Appeal in New Orleans on Oct. 22, 2010 that was perfected on Mar. 4, 2011. The basis for District Court’s jurisdiction arose under the laws of the United States, including the Jones Act and the general maritime laws of the United States. The Fifth Circuit Court of Appeal has jurisdiction over this timely appeal filed from the final decision of the District Court.

Background

Leon Manderson served as the Chief Engineer on the M/V Jillian Morrison, a 150.7-foot, 1800 horsepower vintage 1982 offshore supply vessel recently converted into a diving support vessel with a crew of seven (7) and fitted with accommodations to handle 28 to 33 “industrial personnel” – usually divers and other offshore pipeline maintenance and mission support personnel. The vessel’s Coast Guard-issued Certificate of Inspection (COI) specified a crew of seven including…

- 1 Master
- 2 licensed Mates (Qualified as Officers-in-Charge of a Navigation Watch)
- 2 Able Seamen (Qualified as Ratings of a Navigation Watch)
- 1 Ordinary Seaman
- 1 Chief Engineer

When on voyages of less than 24 hours – a fact that really was not important at trial – the industrial personnel could be raised from 28 to 33 and the vessel’s crew reduced to 5. That figure always included one licensed Chief Engineer. The vessel owners, Chet Morrison Contractors, never paid particular attention to the COI or the vessel’s crew or the welfare of the “industrial personnel” it carried.

The M/V Jillian Morrison was a thirty-year-old converted offshore supply boat refurbished as a diving support vessel and equipped with a “four-point mooring system” to hold the vessel on location in open waters of the Outer Continental Shelf (OCS) and a crane to perform various offshore construction and maintenance projects.

One provision of the vessel’s Certificate of Inspection (COI) stated: “The specified manning level is contingent upon the proper operation of the engineering automatic control monitoring system.” The proper operation of this automated system is a fact disputed throughout this case. The COI required that “Any major alteration or essential component failure must be reported immediately to the cognizant OCMI.”
NMA Expresses Our Concerns for Vessel Engineers

Our Association had an interest in this case for three reasons:

- We assert that the vessel operated under an *inadequate engineroom manning scale* – a creation of the Coast Guard as reflected in the vessel’s Certificate of Inspection that provided only one engineer and no qualified engineroom support personnel for a vessel in 24-hour service. We previously brought similar vessel manning issues to the attention of Congress(1) and will continue to do so until properly addressed. We also point out the human cost of comparable and widespread work-hour abuses aboard uninspected towing vessels that are not operated as inspected vessels.(2) In both areas, the *Coast Guard fails to protect the health, safety and welfare of mariners who serve in the enginerooms aboard “limited-tonnage” commercial vessels*. This case shocks us because it shows the indifference to our mariners’ working conditions extends from the vessel owners, to the Coast Guard, and now to the federal court system. Who, we ask, is left to enforce the existing statutes and related federal regulations designed to protect our mariners if federal judges refuses to do so? We had hoped that the Fifth Circuit Court of Appeal would rise to the challenge but they did not do so. *(1)Refer to NMA Report #R-279, Rev. 8. *(2)Refer to NMA Report #R-412.*

- The physical condition of this inspected vessel and its engineering plant were not effectively managed or monitored by company supervisors or local Coast Guard Marine Safety inspectors.

- The deteriorated living conditions for the “industrial personnel” housed on board the vessel were substandard but were not corrected by company supervisory personnel following reports by the Master of the vessel. One vessel Master reported vessel safety conditions to our Association beyond those covered here that we reported to the Marine Safety Office in Morgan City, L.A. Their response was delayed and, at best, lethargic and incomplete.

Shortly after Chief Engineer Manderson was disabled and hospitalized, the M/V Jillian Morrison, while engaged in an offshore pipeline repair job, suffered a *major engineroom explosion* that killed the engineer and two passengers and severely injured several other persons, before it sank in the Gulf of Mexico. The vessel was later raised, brought ashore and subsequently cut up as scrap. This catastrophic event was covered extensively in the trade and local media but, although mentioned here, did not become part of the Manderson case. *(1)On Mar. 11, 2008.*

Inadequate Vessel Manning on the M/V Jillian Morrison

Beginning in April 2001, our Association reported to Congress(1) about Coast Guard *manning requirements* that imposed significant and constant burdens upon vessel engineers who are the sole individual assigned to manage, maintain, and repair on a 24-hour a day basis the propulsion machinery, electrical generating equipment, heating-ventilating and cooling systems, pumps, compressors and often deck equipment such as capstans, winches, and windlasses found on limited-tonnage vessels. The fact that the M/V Jillian Morrison was not operating as an offshore supply vessel at the time is not relevant to our complaint since its basic OSV machinery as well as *additional* specialized equipment was still in place and had to be constantly maintained, operated, and repaired. Furthermore, divers using the vessel in support of the vessel’s mission brought their own equipment that also required considerable maintenance effort by Chief Engineer Manderson on behalf of Chet Morrison’s customers who leased the vessel to conduct a variety of projects. *(1)NMA Report #R-279, Rev 8, supra.]*

Since our original report to Congress (cited above), our concerns for the health, safety and welfare of the person serving as the sole engineer extended to other vessels such as large inland and offshore towing vessels and even some “small” passenger vessels carrying large numbers of passengers without the services of any trained engineers whatsoever. We are appalled that the Coast Guard, as a regulatory agency, never has been attentive to this well documented problem. In the Manderson case, we are further disturbed that the District Court neglected this important issue and that the Coast Guard refused to step forward and support our mariners by at least submitting an Amicus brief to the Court of Appeal relative to the numerous regulations and statutes the District Court chose to ignore. This reinforces our opinion that the Coast Guard really is not concerned about the safety of our mariners that Congress gives them to superintend!

One of our ongoing complaints is that our working mariners continue to have absolutely no voice in vessel manning. This allows substandard owners and operating companies to make their profits on the backs of engineers like Leon Manderson by providing him and the vessel he serves on with grossly inadequate support for the tasks they undertake. In this regard, the *Coast Guard is as much to blame as the company* because they allowed the disgraceful conditions to continue on an inspected vessel without providing adequate enforcement of statutes and regulations to protect our mariners. There is no sign that this case has attracted their attention. Even the report of the explosion and sinking of the vessel that drew media attention has not been completed.

Not only did the operating company leave Chief Engineer Leon Manderson without any qualified assistance in
his engine room, but they also cheated on terms contained in their Certificate of Inspection by not providing the vessel with a second licensed Mate as required for this vessel although it was crowded with “industrial personnel” and operated in 24-hour service. The District court had ruled that this was a “minor violation of the COI.” The Appeals court rejected this violation as a ground for Manderson’s unseaworthiness claim – a finding on causation – because: [Manderson] claims that only the improper manning of the engine room is what caused his alleged injuries, not the manning of the deck.«(1) [11]Decision on Appeal #10-31063, Jan.3, 2012, pgs. 10, 11.]

The Coast Guard in allowing the vessel to be manned with only one engineer, especially when the vessel had to provide “hotel services” for as many as 33 people, ignored the fact that the vessel was on a 24-hour a day job and must meet the demands and requirements imposed over a continuous period by this number of persons crowded into such small living and working spaces. The exceptional demands made to maintain functioning “hotel services” provided on the vessel alone are considerable.

Poor Vessel Maintenance

On Nov. 27, 2006, our Association at the request of [1]a crewmember on the M/V Jillian Morrison filed a formal complaint with the Coast Guard regarding unsafe deck and engine conditions reported to our Association on the vessel. These conditions are detailed later in this report. [Identity protected against reprisal by NMA.]

We asked the Coast Guard to inspect the vessel and to oversee the repair of safety violations and, further, to examine a potential safety violation that we described in exceptional detail. We had to request a report of the inspection under the Freedom of Information Act from Coast Guard Headquarters to eventually discover that this safety violation apparently was never looked at. With such an ineffective response, were not surprised to hear months later that this vessel exploded and sank. It is also a sad commentary on the Coast Guard’s entire Marine Safety program – one that was reflected in retired Vice Admiral James Card’s 2008 report to the Commandant. [Reprinted as NMA Report #R-401-E]

The Nature of the Case and the Bench Trial

Chief Engineer[1] Leon Manderson brought his case to recover monetary damages for injuries caused by working excessive hours averaging 16 to 20 hours a day over a fourteen month period aboard the M/V Jillian Morrison. As we understood the law by plain reading and discussion with his maritime attorney, Manderson’s employer violated a number of important regulations[2] designed to enforce international treaty obligations[3] by refusing to provide him ten hours of uninterrupted rest per 24 hour day and instead, on occasion, worked him up to 24 hours a day. [Licensed as Chief Engineer, unlimited horsepower, limited to service on vessels of 1,600 gross register tons. (2)46 CFR §15.1111(a) (3)The International Convention on Standards of Training and Watchkeeping for Seafarers, 1978, as amended in 1995 and the Seafarer’s Training, Certification and Watchkeeping Code.]

Mr. Manderson also introduced virtually uncontradicted medical evidence that the de facto 24 hour a day on call schedule Chet Morrison imposed upon him caused or contributed to the first time onset of his Type II diabetes mellitus.

Leon Manderson’s excessive work schedule stemmed from Chet Morrison’s refusal to obey minimum manning requirements of either the vessel’s Certificate of Inspection (COI) that spell out those requirements clearly, as well as requirements of federal laws and regulations based on those laws. The law[4] prohibits a vessel owner from operating his vessel without the full crew complement required by its Coast Guard COI. [46 U.S. Code §8101(d).]

Chet Morrison’s violation of the manning requirements of its vessel’s COI, as well as numerous federal work hour and manning statutes, was particularly egregious since its dive vessel often operated on a 24 hour a day on a seven days a week schedule. Contrary to the District Court’s findings, both Chief Engineer Manderson and former Chet Morrison Master Frank Billiot gave uncontradicted live trial testimony that they repeatedly advised company managers that the M/V Jillian Morrison was dangerously undermanned – but to no avail.

Chet Morrison contractors occasionally assigned untrained deck personnel supposedly to assist Chief Manderson in violation of specific regulations that mandate only trained personnel work in a periodically unmanned engine room. However, the Appeals Court found that “The only evidence showing the assistants may have done anything more than unskilled-nature work was when Manderson trained or assigned them to do so…” and a retired Coast Guard Commander brought in as an expert witness by CMC testified that the Jillian Morrison was properly manned, in accordance with Coast Guard regulations and the vessel’s Certificate of Inspection. [46 CFR §15.1103(c) – based on a U.S. treaty obligation. (Appeals transcript, p. 8.)]

Chet Morrison also violated a federal statute[5] that prohibits assigning deck crew to duties in the engine room. The company also violated the vessel’s COI by failing to properly maintain an automated engine room. However the Appeals Court appears to have accepted the assertion by the expert witness, a former Coast Guard Commander
that the vessel was properly manned according to its COI.  [1]46 U.S. Code §8104(e)(1)(A).  [2]NVIC 1-69]

Leon claimed the exhaustion and stress generated by his excessive work hours caused the first time onset of his diabetes, aggravation of his pre-existing ulcerative colitis.  As a result of his illnesses contracted aboard Morrison’s vessel, Chief Engineer Manderson sought maintenance and cure from Chet Morrison.  However, Chet Morrison instead terminated his group health insurance, demanded that Manderson reimburse the company for two previous months of health insurance premium payments, and refused to pay his maintenance and cure as required by law. [1] This treatment gives our mariners an exposure to the tactics used by Chet Morrison and a number of other substandard maritime employers who prey on our mariners.  It certainly is not the first case like this that our Association encountered as recited in our most widely read reports.  [1] Refer to NMA Reports #R-344-A, Rev. 1; #R-344-B; and #R-202, Rev. 4.)

Ironically, Manderson’s exhaustion-generated health problems probably saved his life from the fatal unseaworthiness of this dilapidated dive boat before the vessel itself took what turned out to be “its final dive” on Mar. 12, 2008, six weeks after Leon was admitted to the hospital (at his own expense).  On that date, the M/V Jillian Morrison’s engineroom was engulfed in a tremendous gas explosion that killed the vessel’s engineer, two other persons, and causing the boat to sink off the Louisiana coast.

Leon’s case was tried before the District Court in a bench trial (i.e., without a jury) on May 24-25, 2010.  The District Court denied Manderson’s claims against Chet Morrison for Jones Act negligence and unseaworthiness.  However, Judge Haik did find that Chet Morrison Contractors (CMC) arbitrarily and capriciously denied Leon’s maintenance and cure and awarded him “maintenance and cure” that, several years after the fact, helped to cover well over $100,000 of medical expenses that were required to keep him alive.  In fact, as discussed with his attorney, Leon’s appearance in the courtroom to testify in this trial remained in doubt until the last moment as a result of the seriousness of his illnesses.  CMC would appeal that their actions in handling Manderson’s claims were not “arbitrary and capricious.”

Manderson Presented Eight “Reversible Errors” for Review on Appeal.

Attorney Mark Ross presented the U.S. Fifth Circuit Court of Appeal in New Orleans with these issues to decide on appeal: …

• Error #1. Whether the District Court was clearly erroneous in finding that appellant Leon Manderson, failed to provide any evidence, including “objective” evidence that Chet Morrison routinely worked Leon Manderson 16 to 20 hours a day, without relief, in violation of federal manning and work hour limitation statutes.

• Error #2. Whether the District Court erred as a matter of law in holding crewmen like appellant Leon Manderson ultimately responsible for setting their own work and rest schedules.

• Error #3. Whether the District Court erred as a matter of law in finding that 46 CFR §15.1111(g)), which directs a vessel master’s duty to establish watch schedules, did not apply to Chet Morrison’s dive vessel.

• Error #4. Whether the District Court erred as a matter of law in finding that Leon Manderson failed to prove that Chet Morrison violated 46 CFR §15.1103(c)), which prohibited Morrison from transferring untrained deck personnel to the engineroom, because Manderson supposedly failed to prove his actual work hours, an unrelated issue.

• Error #5. Whether the District Court erred as a matter of law in holding that Leon Manderson, was contributorily negligent and/or assumed the risk in working excessive hours given Chet Morrison’s acknowledged statutory violations of federal manning and work hour limitation statutes.

• Error #6. Whether the District Court erred as a matter of law in failing to find that Chet Morrison’s violation of its COI and multiple manning and work hours statutes, together with plaintiff’s medical evidence proving causation, shifted to Chet Morrison the burden to show that the violations could not have caused or exacerbated appellant Leon Manderson’s injuries.

• Error #7. Whether the District Court erred as a matter of law in failing to find Chet Morrison’s vessel unseaworthy.
• Error #8. Whether the District Court abused its discretion in denying (recovering certain costs involved in trying the case) to Mr. Manderson pursuant to Federal Rule of Civil Procedure 54(d) upon no other ground than the District Court’s erroneous conclusion that it is within its unbounded discretion to do so.

Summary of Chief Engineer Manderson’s Appeal

The District Court was clearly erroneous in failing to be aware of eye-witness testimony and Chet Morrison’s stipulations that Mr. Manderson worked an average of 16 to 18 hours a day without adequate relief.

The District Court erred as a matter of law in holding that Mr. Manderson and the M/V Jillian Morrison’s crew had the legal obligation to set their own work schedules in the face of federal statutes placing that duty upon the vessel’s master.

The District Court erred as a matter of law in holding Chet Morrison could not know it failed to properly man its own vessel unless Mr. Manderson told them of the manning shortage.

The District Court erred as a matter of law in holding Mr. Manderson was 100% negligent and assumed the risk of working excessive hours. No Jones Act seaman can assume the risks of his employment. Additionally, Mr. Manderson cannot be found contributorily negligent in the face of Chet Morrison’s numerous statutory violations. In like manner, the District Court erred as a matter of law in finding that 46 CFR §15.1111(g), which directs a vessel master’s duty to “post watch schedules where they are easily accessible” found it was not “practical within this industry for masters of vessels manned with such a small crew to post a rest schedule.” In addition, the former Coast Guard Commander who was CMC’s expert on Coast Guard regulations testified: as a chief and licensed engineer, Manderson was ultimately responsible for ensuring he got enough rest. And Captain Plain, who served with Manderson aboard the Jillian Morrison testified: Manderson set his own hours; he never observed Manderson working more than 12 hours per shift; and Manderson never complained about his work schedule.¹

[NMA Comment: It is not hard to understand that if a Master is not concerned about posting a watch schedule required by regulations, such an officer would not be concerned about the work hours performed by an engineer working several decks below as long as he kept the vessel running. However, the loose concept of being on 24-hour call is in direct conflict with the NTSB’s concern for developing scientifically based hours of service regulations, Crew Endurance Management, and international treaty obligations under STCW for vessels operating in international waters. We assert that the “on call” concept deserves the attention of Congress since it has been overlooked by Coast Guard regulators.]

The District Court erred as a matter of law in finding that Leon Manderson failed to prove that Chet Morrison violated 46 CFR §15.1103(c), which prohibited Chet Morrison from transferring untrained deck personnel to the engine room, because Manderson supposedly failed to prove his actual work hours. Proof that Chet Morrison violated the regulation is not contingent upon showing excessive work hours by Leon Manderson, but instead that Chet Morrison transferred untrained deck personnel to the engineroom.

The District Court also erred as a matter of law in failing to find Chet Morrison violated 46 U.S. Code §8104(e)(1)(A), which prohibits assigning deck crew to the engineroom. The District Court was further clearly erroneous in failing to recognize that Chet Morrison’s assignment of untrained deck personnel to engine room duty is objective evidence that the vessel, and specifically the engine department, is undermanned.

The District Court erred as a matter of law in finding the M/V Jillian Morrison unseaworthy since it was undermanned in violation of the vessel’s COI, as well as multiple federal manning and work hour statutes. Chet Morrison’s violation of numerous manning and work hour statutes, coupled with the largely uncontradicted medical evidence establishing a causal relationship between Leon Manderson’s shipboard work schedule and his injuries, proved the vessel’s unseaworthiness.

In like manner, the District Court erred as a matter of law in failing to shift to Chet Morrison the burden of showing its many statutory violations did not cause or contribute to Chief Engineer Manderson’s injuries, a burden Chet Morrison never met.

Finally, the District Court abused its discretion in denying Mr. Manderson costs pursuant to FRCP 54(d). The District Court erred in failing to recognize that Mr. Manderson, as the prevailing party, is presumed to be entitled to an award of court costs. The District Court’s decision to deny court costs must be grounded on some basis other than the District Court’s unffettered discretion.

Given the forgoing, we believe the Fifth Circuit Court of Appeal should have reversed the District Court’s
failure to find Chet Morrison liable for Mr. Manderson’s injuries and remand the case to the District Court to determine Mr. Manderson’s damages. *Unfortunately, the Appeals Court did no such thing!*  

Our Association offers its initial comments to each of these possible “Errors.” We re-state each of these errors based on our experience and a review of all the documents in our possession. We will revise and update this report as the case proceeds through the appeal process.

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<th>NMA VIEWS ON ERROR #1</th>
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<td>NMA Re-statement: We believe the District Court erroneously found that Chief Engineer Leon Manderson, failed to provide any evidence (including “objective evidence”) that Chet Morrison Contractors routinely worked him for 16 to 20 hours a day, without relief, in violation of federal manning and work hour limitation statutes.</td>
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[NMA Comment: We had no trouble finding sufficient evidence in both depositions and testimony and in court. Why the judge was unable to do this is incomprehensible other than to say that he did not grasp the implications of the case and its effect on limited-tonnage mariners. For a Federal Judge to ignore so many laws (and regulations based upon those laws) puts every mariner’s health, safety, and welfare at risk and must not be taken lightly. Our Association is concerned that since the Appeals Court went far beyond this point in its decision on appeal, it leaves every mariner who contests any of the existing hours-of-service statutes and regulations in the future.]

[NMA Comment: We understand that the Coast Guard was invited to prepare an “Amicus Brief” regarding their position on the laws and regulations mentioned in this report. We are disappointed that they were unwilling to commit themselves to explain their interpretations of the laws they are paid by taxpayers to uphold.]

[NMA Comment: We also express our disappointment in the Coast Guard’s Marine Safety Inspections conducted on the M/V Jillian Morrison in the months leading up to her final fatal explosion.]

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<th>Testimony of Former Crewmembers</th>
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| The M/V Jillian Morrison was a worn out, converted offshore supply vessel (OSV) whose dilapidated condition required constant attention. For example, Captain Frank Billiot, an experienced veteran aboard anchor handling tugs, supply boats, and dive vessels testified that the vessel’s sewage system routinely overflowed feces and sewage (i.e. both “black-” and “gray water) throughout the vessel, including the galley. Captain Billiot told Chet Morrison’s management about the stench and contamination but the company did little if anything to respond to these conditions. Not only did the vessel’s crew have to live with the stench and often inoperable sewage system, but the employees of the vessel charterer had to endure these unsanitary conditions.  

Seaman Jason Giuliani, a ship’s clerk who occasionally worked as an engineroom helper aboard the vessel provided a deposition that was introduced into evidence at trial. Mr. Giuliani first helped clean a major sewage overflow in April 2007 and recalled that raw sewage filled a 30-foot by 20-foot by 3-foot deep bilge and that sewage was everywhere. Sewage overflows occurred about once a month, and one overflow took as long as three days to clean.  

Relevant to Leon’s claims, Mr. Giuliani testified the unseaworthy sewage system added to Manderson’s already overburdened work schedule. Leon estimated that the unseaworthy sewage system required him to spend an additional, “two or three or four hours every day,” just cleaning the filth.  

Leon told Chet Morrison’s port engineer, John Brunet, about the defective sewage system as well as the vessel’s numerous other unseaworthy conditions. Leon even gave Mr. Chet Morrison, the company’s CEO, a personal guided tour to underline the desperate need to repair the vessel. However, Mr. Morrison refused to remedy the choking stench from the sewage overflow up to the time the vessel exploded and sank. Morrison filed a limitation of liability proceeding the morning of the vessel’s explosion in the U.S. District Court in New Orleans.

Howard Leonard is a licensed Chief Engineer, Limited, Any Horsepower. Attorney Mark Ross introduced Mr. Leonard’s deposition testimony into evidence. Mr. Leonard worked for Chet Morrison as a vessel engineer and temporarily replaced Manderson on an earlier occasion. He described the M/V Jillian Morrison as a vessel “of
antiquated vintage” in need of constant attention and should have been retired from service altogether.

Mr. Leonard cited one illustrative incident when a rotten potable water line(1) broke, threatened to pour 40,000 gallons of water into the vessel’s and flood its interior. The vessel’s captain moved the vessel to safety by pushing it into the mud to keep it from sinking. [Note: Our Association spent much time and energy alerting Congress to the need for closer inspection of vessel potable water systems. Refer to NMA Report #R-395, Rev.3.]

The M/V Jillian Morrison’s COI required the vessel to have an automated engineroom system which could be controlled from the pilothouse. The COI cautioned that the vessel’s manning requirements in turn were, “contingent upon the proper operation of the engineering/automated control/monitoring systems.” If the vessel’s so-called “automated” engine room did not function, then the vessel required additional engineroom crewmembers and the Coast Guard’s Officer-in-Charge Marine Inspection was to be notified.

Chief Engineer Leon Manderson asserted that the M/V Jillian Morrison never had a fully operational automated engineroom system required by the vessel’s COI. The vessel, therefore, never complied with the vessel’s manning requirements for a non-automated engineroom equipped vessel. Mr. Manderson recalled that of all the pilothouse based systems that could comprise an automated engineroom system, only a tachometer worked. Part time clerk/engine room helper Jason Giuliani described the M/V Jillian Morrison’s engineroom operation as “manual” as opposed to “automated.”

Former chief engineer Howard Leonard described the vessels alleged automated engineroom system as “unreliable” and cited the failure of the engineroom’s bilge alarm to sound when the vessel almost sank at the dock. In his deposition transcript he noted a log entry dated Aug. 23, 2007: “Chief notified captain taking on water in engineroom. No alarm sounded.

Captain Billiot also described one incident illustrating the unseaworthiness of the M/V Jillian Morrison that had life-threatening consequences. He described shutting down diving operations when the vessel’s defective port anchor chain parted. Nevertheless, the company ordered Captain Billiot to continue diving operations with only one bow anchor cable in his four-point mooring system deployed. Captain Billiot refused to do so for fear of killing divers and instead returned to port. In response, the company fired Captain Billiot and he reported this incident to our Association after his employment was terminated. We directed a lengthy report to the Coast Guard Marine Safety Unit in Morgan City with much red tape and very little satisfaction.

The M/V Jillian Morrison Operated 24 Hours a day for Weeks at a Time

Former M/V Jillian Morrison Captain Frank Billiot testified that dive boats operate 24 hours a day, seven days a week “until the job is completed.” Former ship’s clerk Jason Giuliani recounted that work aboard the dive boat never stopped: “the boat was always operating. It’s a 24/7 operation.” Chief Manderson explained the M/V Jillian Morrison remained offshore two to six weeks at a time, and while offshore the vessel and Chief Engineer Manderson worked up to 24 hours a day.

With a large number of divers plus vessel crew on board, Mr. Manderson had numerous duties related to the divers’ operations as well as tending to the vessel’s engine room.

Manderson Introduced Evidence of Working 16–20 Hours A Day Without Rest

The District Court found Manderson failed to provide any evidence of his work schedule aboard the M/V Jillian Morrison. The District Court also ruled Manderson failed to introduce evidence showing whether he did or did not rest 10 hours out of every 24 as mandated by 46 CFR §15.1111(a).

The District Court’s findings are clearly erroneous. The District Court not only disregarded Mr. Manderson’s uncontradicted testimony, but was apparently unaware of evidence presented by ship’s clerk Jason Giuliani, former engineer Howard Leonard and former Master Frank Billiot that showed the engineers who served on this vessel, including Mr. Manderson, routinely worked 16 to 18 hours a day. The uncontradicted evidence also showed Chet Morrison failed to ensure that Manderson could rest 10 hours out of every 24 hours given the vessel’s chronically undermanned crew.

Former ship’s clerk Jason Giuliani recorded the ship’s personnel on board and thus was in a unique position to know that Chet Morrison Contractors made Leon Manderson work alone. This is clear from his transcript that was entered into evidence. For example, in April 2007, Mr. Giuliani volunteered to assist Leon whenever he could break away from his job as ship’s clerk. Until Mr. Giuliani volunteered to try to help Mr. Manderson as an untrained “wiper” (i.e., a helper to clean the engineroom) Chet Morrison, “didn’t have a position for a wiper or even a trained oiler on its Certificate of Inspection. The Chief Engineer did the engineering and that was that.”

When Jason Giuliani volunteered to assist Leon in the engineroom, Jason had absolutely no sea experience and
**no engineroom experience.** The engineroom and other “machinery spaces” on vessels of this type and size are dangerous places equipped with large electric generators, hydraulic and pneumatic equipment, large propulsion engines and other rotating equipment.\(^{(1)}\) Leon could not leave Jason alone in an engineroom since he was not qualified and thus might inadvertently cause, “any number of catastrophic events to affect not only the vessel and its crew but also the divers as well. However, given Jason Giuliani’s lack of experience, Chief Engineer Leon Manderson remained on call 24 hours a day, without a scheduled off-duty period. Consequently, Jason knew, based on his work with Leon that Manderson averaged at least 16 hours of actual work a day. Jason Giuliani often assisted Leon Manderson, would go off shift, shower, sleep and then return to work to find Leon was still up and working. In addition, Jason witnessed occasions on which Leon worked 24 hours or more straight time – all without any kind of provision for overtime pay for these extra hours. \(^{(1)}\)The danger became evident when the engineroom exploded six weeks after Leon Manderson left the M/V Jillian Morrison for the last time. Refer to NMA Report #R-428. Rev. J.

Jason Giuliani, as the ship’s clerk, knew that Chet Morrison did not provide Leon Manderson with a minimum of 10 hours a day rest. Mr. Manderson, as the vessel’s licensed Chief Engineer, confirmed that the vessel’s Captain never assigned anyone to assist him who was sufficiently competent or legally qualified to allow Mr. Manderson to take off 10 hours a day for rest. Mr. Giuliani witnessed and testified to the results of Leon’s sleep deprivation when he would fall asleep while eating in the galley. Given Manderson’s lack of any scheduled off-duty time, he tried to nap in a Zodiac inflatable rescue boat on deck since constant work interruptions making trying to sleep in his own quarters “pointless.”

Even Jason Giuliani’s individual and voluntary efforts to help Leon Manderson were frequently interrupted when the Captain called him back to the pilot house to work as the ship’s clerk again for “a week here and two weeks there.” When Jason knew he would be unable to assist in the engineroom, Leon would go back to working like he did before, by himself. In any instance, Manderson worked on a 24-hour basis without an adequate relief. This was the result of a failure by the Coast Guard to provide a realistic manning for the engineroom on the vessel’s Certificate of Inspection and the failure of the Master to provide and post a reasonable work schedule. The Master was limited in that the company failed to provide sufficient trained and qualified crewmembers to operate the vessel properly.

**Manderson’s Replacement Engineer Also Worked Over 16 Hours a Day**

In finding that Chief Engineer Leon Manderson did not present any evidence of his excessive work hours, *the District Court also ignored the deposition testimony of Mr. Howard Leonard.* Mr. Leonard is a former licensed chief engineer.

The M/V Jillian Morrison was one of three Chet Morrison vessels Howard worked on. He temporarily replaced Leon on that vessel on Aug. 16, 2007. Chet Morrison also worked Mr. Leonard, like Manderson, 16 to 18 hour days on the M/V Jillian Morrison. Mr. Leonard, like Mr. Manderson, was on call 24 hours a day. The vessel’s captain never scheduled Howard’s work so that he could receive the 10 hours of rest per day as required by regulations. Mr. Leonard’s work schedule instead was wholly “unpredictable”. In addition to not providing for his required rest, Chet Morrison fired him for his perceived lack of enthusiasm for working 16 to 18 hour days.

**Even His Employer Agreed Leon Manderson Worked Alone in the Engineroom**

The District Court was clearly erroneous in finding Manderson failed to provide the Court with evidence showing whether or not he was adequately relieved of his duties. Objective evidence of Manderson’s lack of relief includes Chet Morrison’s stipulations that Manderson worked on a 24 hour a day “on call” basis without any relief. *Chet Morrison in fact made the circular argument that because Chet Morrison did not provide Mr. Manderson with a relief, no “watch” system existed and Manderson was not entitled to be relieved.* In the Court Reporter’s Official Transcript of the Motion Hearing before the judge, Chet Morrison stipulated Manderson remained on call 24 hours a day, which Chet Morrison incorrectly claimed, was “customary.” Chet Morrison admitted in open court that Manderson worked virtually alone for the first five months of his fourteen months employment with Chet Morrison. Leon presented uncontradicted testimony that whenever Chet Morrison professed to provide Manderson with an engineroom assistant, such personnel were grossly unqualified. After Mr. Manderson told port engineer John Brunet and personnel manager Larry Bourg of his average 16 to 18 hour daily work schedule, Chet Morrison assigned an unlicensed, *untrained engineroom “helper”* to allegedly assist him.

Mr. Manderson quickly found that his new “assistant”...“wasn’t no oiler. He wasn’t no helper.” Chet Morrison replaced their first “helper” with yet another unlicensed, untrained person whose lack of qualifications limited his duties to painting the boat.

Dive boats and other service vessels, which lawfully operate in the Gulf of Mexico routinely, employ at least
two engineers so each can work a 12-hour shift with 12 hours off-duty to rest. Captain Frank Billiot testified that in his 33 years of seamanship he has worked with dive boat companies including Cal-Dive International, Edison Chouest and Torch Offshore, which employ two or more engineers. Manderson likewise testified that he worked with other dive companies who relieved him with another qualified engineer. In accord, Howard Leonard deposition, Chet Morrison chose to keep its vessels undermanned.

**The Vessel’s Master Told Chet Morrison that M/V Jillian Morrison Undermanned**

We believe the District Court was clearly erroneous in finding that Leon Manderson failed to present any evidence that Chet Morrison knew it kept the M/V Jillian Morrison habitually undermanned and compelled Manderson to work 16 to 18 or more hours a day. The District Court appeared to be unaware of former captain Frank Billiot’s deposition and direct testimony. Captain Billiot determined after his first 28-day shift that the vessel was undermanned by at least one mate, one engineer and one designated engineer trainee (DET). Captain Billiot told Chet Morrison personnel manager Larry Bourg that the vessel was short one mate, a galley hand, one engineer and a DET – persons he believed were necessary for the vessel to perform its assignments. Mr. Manderson likewise told Chet Morrison personnel manager Larry Bourg and port captain John Brunet that he worked 16 to 18 hour days and needed relief. It is noteworthy that Chet Morrison did not call either Mr. Bourg or Mr. Brunet as witnesses at trial.

**Chet Morrison Did Not Keep Time Records for its Engineers**

If the District Court’s reasons for their judgment demand for “objective evidence” includes time records, they were clearly erroneous in finding Manderson failed to present any evidence, including “objective” evidence, of his excessive work load aboard M/V Jillian Morrison. If the District Court’s reference to “objective” evidence means written time records, **Chet Morrison stipulated that it did not keep time records**. In fact, this is a perfect example of why our Association fought for years to inform Congress of the need to require “official logbooks” on all inspected vessels – that finally was recognized by amending logbook requirements in §607 of the Coast Guard Authorization Act of 2010. Yet if engineers are allowed to serve on an “on call” basis rather than to stand a regular “watch” assigned by the vessel’s Master, this amendment may become meaningless in the eventual goal of providing engine room personnel with scientifically based hours-of-service. [46 U.S. Code §11304.]

Chet Morrison at first falsely represented that it supposedly kept time records for Manderson and other engineers on the M/V Jillian Morrison. Morrison initially claimed that Leon Manderson and other engineers were supposedly obligated to document their actual work hours in logs which Chet Morrison promised to bring to trial, guaranteeing, in the Court Reporter’s official transcript that: “[T]he logs do exist.” Chet Morrison initially claimed Mr. Manderson failed to fill in time records as the Chief Engineer plaintiff was responsible for completing the Engineer’s log on a daily basis despite this fact that Leon admitted that he did not enter the number of hours he worked into his logs. In reality, Morrison never kept time records for its engineers. Former Chet Morrison engineer Howard Leonard testified that Chet Morrison never asked him to fill out time sheets. In addition, no one with Chet Morrison ever showed Mr. Leonard a time sheet he had to fill out. Nor did Chet Morrison ever reprimand Mr. Leonard for supposedly failing to fill out time sheets. In fact, no one with Chet Morrison ever mentioned the subject of time sheets to Mr. Leonard, including three different Chet Morrison vessel captains.

Furthermore, Chet Morrison displayed a shocking ignorance of what records it did maintain. For example, they denied the existence of captain’s rough logs until Leon Manderson proved their existence during a hearing on his “Motion to Compel” before the Magistrate Judge Mildred Methvin during which the judge debated whether she should cross-examine Chet Morrison personally on what records his company did or did not have. As it was, Magistrate Judge Methvin sanctioned Chet Morrison for its bad faith and overall “strange answers” to Mr. Manderson’s discovery. Subsequently, through his attorney, Mr. Manderson filed a “Motion for Application of an Adverse Inference” against Chet Morrison for its persistent misrepresentation that Chet Morrison engineers either kept or were supposed to keep detailed records of their work time.

In response, Chet Morrison changed course and claimed it never said its engineers kept time records: In fact, Chet Morrison never maintained that it required its engineers to record the number of hours that they worked, nor has it ever claimed that it. If the District Court’s reference to “objective evidence” is to written time records, no such records ever existed.

**Undermanning a Vessel Violate its COI and Provides “Objective Evidence” of Excessive Work Hours**

The District Court was clearly erroneous in finding that such statutory violations supposedly played no role in
Manderson’s Herculean work schedule. As a matter of fact in finding that Chet Morrison violated its Coast Guard Certificate of Inspection by sailing without one of its two required Mates aboard the vessel, this was a statutory violation.

The District Court reasoned that since Manderson “claims that only the improper manning of the engine room caused his injuries, not the manning of the deck”, Chet Morrison’s decision to sail a mate short was of no importance. Leon Manderson testified his work was not limited to the engine room. His work on a dive vessel with 32 or more divers required him to work on dive related equipment above decks, including the divers’ “hot water machine…air compressor machine for jetting, the jet pump.” Mr. Manderson related that with 24 hour a day dive operations, he had to constantly monitor a deck crane, air compressors and dive compressors. In fact, the presence of a carefully supervised mate could have assisted Mr. Manderson.

Ship’s clerk Jason Giuliani, who normally worked in the pilothouse, tried to assist Chief Engineer Manderson to the extent allowed by his lack of training and experience. However, the vessel’s captain often called Giuliani back to work as ship’s clerk in the pilothouse, leaving Leon to work alone again. Mr. Giuliani’s transcript provides an illustration of how too few deck personnel impacted Leon’s access to even untrained help.

When Captain Frank Billiot told Chet Morrison personnel manager Larry Bourg that the M/V Jillian Morrison was undermanned by one mate according to its posted Certificate of Inspection and one engineer, among other deficiencies, Bourg told Captain Billiot to use Able Seamen from the deck department. However, Captain Billiot correctly refused to assign his Able Seaman to the engineroom, because Captain Billiot needed the AB to act as lookout in the pilot house – as required by the Rules of the Road (1). Furthermore, Chet Morrison’s violation of the vessel’s Certificate of Inspection also violates law and regulation (2) that forbid Chet Morrison from sailing without the minimum complement specified in the vessel’s COI. The District Court’s conclusion that Chet Morrison’s violation of its vessel’s COI manning requirements, “is of no moment to the case at hand,” is deficient. 1(1)33 CFR §83.05. (2)46 CFR. §15.515(a) and 46 U.S. Code §8101(d).

Manderson’s Medical Evidence Provides the Causal Link Between his Work Schedule and his Injuries.

Mr. Manderson required hospitalization for exacerbated ulcerative colitis on Jan. 24, 2008, that subsequently required removal of his entire colon a year later. Attorney Mark Ross obtained depositions from four highly qualified medical experts who supported the medical causation between Leon’s non-stop work schedule and exacerbation of his ulcerative colitis as well as diabetes. We summarize key items from of their deposition that are believe are important for all of our mariners to be aware of as follows:

- Working on an exhausting 24 hour a day basis is a specific stressor that would cause a flare up of ulcerative colitis.
- Exhaustion is a “profound physical stressor.” If a person with pre-existing ulcerative colitis worked on call 24 hours a day for months on end, these working conditions create a “stressful situation” known to increase flare-ups of the condition.
- Stress generated by such an extreme work schedule more than likely aggravated the illness.
- Stress can alter the course of a number of diseases including ulcerative colitis. The irritable bowel syndrome is a disease known for its direct relationship to stress. Patients can very often connect situational difficulties with their symptoms.
- During stress a number of hormones are produced. The most important hormone are the steroids produced in the adrenal glands and the other hormones, like the growth hormones that can stimulate the body to become increasingly more inflamed. Hormonal theory is reasonably well established.
- Stress generated by working 16 to 20 hours a day for weeks on end would aggravate ulcerative colitis, as well as any other malady from which he suffered: “In my opinion, yes, stress can alter the course of most illnesses. Certainly, specifically, the ones Mr. Manderson had.”
- Sleep deprivation from a 24 hour a day on-call schedule with at best broken up, sporadic opportunities to rest is a definite stressor likely to exacerbate pre-existing ulcerative colitis: The lack of a regulated, well-entrained sleep-wake schedule leads to sleep restriction, would exacerbate underlying ulcerative colitis.

Mr. Manderson also introduced largely uncontradicted medical evidence that the 24-hour a day on call schedule Chet Morrison imposed upon him caused or contributed to the first time onset of his Type II diabetes mellitus.

- The stress of insufficient sleep, inadequate sleep, and a cumulative sleep debt were a major risk factor for the unmasking of diabetes. Although Leon had a family history that may have put his baseline at a higher risk for diabetes. The timing of the diagnosis for the onset of diabetes strongly suggests that the sleep restrictions he underwent on the job presented a contributing factor.
- When asked whether a causal correlation existed between Mr. Manderson’s 24 hour a day on call work schedule, average daily working hours of 16 to 18 hours, plaintiff’s sporadic sleep opportunities and the January 2008 onset
of Manderson’s diabetes, the fourth medical expert witness emphatically replied “yes”: The lack of sleep can cause insulin resistance. It can cause cortisone release, which can cause elevated sugar. Cortisone release that is much higher than normal leads to decreased blood sugar. Sleep deprivation causes hormonal changes that leads to diabetes: Increased abdominal fat is one of the main criteria for insulin or one of the main acquired or ways in which one can acquire insulin resistance. Sleep deprivation contributed to Mr. Manderson’s diabetes: The expert on diabetes would not permit Leon to return to work offshore given the risk of a loss of consciousness from hypoglycemic shock. This, among other medical factors ended Leon’s career.

Employer’s Medical Expert Did Not Effectively Oppose Manderson’s Experts and Treating Physicians

Chet Morrison medical expert conceded that he lacked the training, expertise or knowledge to rebut Mr. Manderson’s case on medical causation and specifically had no expertise concerning sleep deprivation. For example, he did not know the five stages of sleep and deferred to Leon’s sleep specialist concerning how sleep affects a multitude of bodily functions. Morrison’s expert agreed with Mr. Manderson’s experts that the physical stress generated by, “sleep deprivation, working sixteen, eighteen hours a day, day after day”, can exacerbate ulcerative colitis. He agreed with Mr. Manderson’s medical experts that stress obviously would have contributed to a flare-up of the disease. He stated if a patient sought treatment for diabetes he would have to refer him to a diabetologist or an endocrinologist and admitted he is not qualified to comment on any association between chronic insufficient sleep and diabetes. Further, Morrison’s expert deferred to Manderson’s diabetes doctor on whether sleep deprivation is a contributing factor to Type II diabetes. Consequently, Manderson’s medical causation evidence was not rebutted by Chet Morrison.

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<th>NMA VIEWS ON ERROR #2</th>
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<td>NMA Re-statement: We believe the District Court erred as a matter of law in holding that crewmen like Chief Engineer Leon Manderson ultimately are responsible for setting their own work and rest schedules.</td>
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[NMA Comment: 46 CFR §15.705 states in part: “Title 46 U.S.C. 8104 is the law applicable to the establishment of watches aboard certain U.S. vessels. The establishment of adequate watches is the responsibility of the vessel’s Master.”]

The District Court in its “Reasons for Judgment erred as a matter of law in holding Jones Act seamen like Mr. Manderson ultimately responsible to rest as they saw needed. 46 CFR §15.705 titled,“Watches” states simply: “The establishment of watches is the responsibility of the vessel’s Master.” 46 CFR §15.1109 directs the vessel’s Master, to “ensure observance of the principles concerning watchkeeping…” 46 CFR §15.1111(g) states: “The Master shall post watch schedules where they are easily accessible. They must cover each affected member of the crew and must take into account the rest requirements of this section as well as port rotations and changes in the vessel’s itinerary.”

The District Courts holding contradicts federal statutes, interpreted by Coast Guard regulations which, consistent with centuries of maritime law, hold the vessel’s Master responsible for setting watches. The District Court’s decision invites chaos aboard any ship on which each crewmember, from galley hand to Mate, interprets work hour statutes, “to rest as they saw needed.” Unfortunately, this decision was affirmed by the Court of Appeals.

The District Court’s opinion further suggests that Mr. Manderson, for unexplained reasons, was supposedly determined not to rest and would have refused commands to do so: “The Court cannot assume that the posting of a watch schedule would have compelled the plaintiff to rest more.”

The Court in The DENALI case in 1939 took a far more realistic look at a claim that a vessel’s Mates “customarily” and “voluntarily” served additional watches out of alleged love for their employer:

This is surprising testimony. Knowing something of the modern sailor and the watchfulness of corporate managers over their labor costs, this maritime court wonders how long the second and third mates would have held their jobs if they failed “customarily” and “voluntarily” to violate the provisions of this safety statute and…serve over its required time.

In accord, the 1954 Bradt vs. United States case held concerning the destroyed health of that sleep-deprived vessel engineer, that “The duty of ship owners to seamen, who are wards of admiralty, is not so lightly discarded by…a willingness to continue with his tasks.”
The District Court erred as a matter of law in holding that since crewmembers like Mr. Manderson supposedly assumed the risk of “failing to rest” as they saw needed. The District Court’s finding that Manderson allegedly “assumed the risk” of his employment is a defense Congress eliminated in 1939. In 1958, the U.S. Supreme Court in *Kernan v. American Dredging Co.*, explained that “assumption of the risk” is not a defense in Jones Act cases: First, Section 4 relates entirely to the defense of assumption of risk, abolishing this defense where the injury was caused by the employer’s negligence or by violation...of any statute enacted for the safety of employees.

**NMA VIEWS ON ERROR #3**

NMA Re-statement: We believe the District Court erred as a matter of law in finding that 46 CFR §15.1111(g), that directs a vessel Master to establish watch schedules on his vessel, did not apply to Chet Morrison’s dive vessel.

The District Court held it did not find it practical, “within this industry for Masters of vessels manned with such a small crew to post a schedule”, setting watches for the crew. *Unfortunately, this decision also was affirmed by the Court of Appeals.*

In 46 CFR §15.1111(g) actually provides that a vessel’s master, “shall post watch schedules where they are easily accessible.”

The District Court’s conclusion that dive vessels are exempt from 46 C.F.R. 15.1111(g) is erroneous as a matter of law and ironic as a matter of fact. *The M/V Jillian Morrison had a “small crew” since, among other things, the vessel sailed one mate short in violation of the vessel’s COI – a very significant fact in light of the large number of passengers it was carrying and that the vessel was in continuous 24-hour service.*

Although Steward’s Department personnel generally are not specified on a vessel’s COI, former Captain Frank Billiot also determined as a practical matter that the vessel lacked a galley hand necessary to provide support for the cook. The cook was expected to provide food service and regular meals not only for the vessel’s crew but also for up to 32 additional “industrial personnel” carried aboard the vessel for various work projects carried out on behalf of its charterers. *(Refer to NMA Report #R-455, Rev. 3.)*

The District Court’s exemption of Chet Morrison from 46 CFR §15.1111(g) is nothing less than a reward for refusing to lawfully man its vessel is a clear legal error. *Unfortunately, this decision as well was affirmed by the Court of Appeals.*

**46 CFR §15.1111 Work hours and rest periods.**

(a) Each person assigned duty as an officer in charge of a navigational or engineering watch, or duty as a rating forming part of a navigational or engineering watch, on board any vessel that operates beyond the Boundary Line shall receive a minimum of 10 hours of rest in any 24-hour period.

(b) The hours of rest required under paragraph (a) of this section may be divided into no more than two periods, of which one must be at least 6 hours in length.

(c) The requirements of paragraphs (a) and (b) of this section need not be maintained in the case of an emergency or drill or in other overriding operational conditions.

(d) The minimum period of 10 hours of rest required under paragraph (a) of this section may be reduced to not less than 6 consecutive hours as long as—

1. No reduction extends beyond 2 days; and
2. Not less than 70 hours of rest are provided each 7-day period.

(e) The minimum period of rest required under paragraph (a) of this section may not be devoted to watchkeeping or other duties.

(f) Watchkeeping personnel remain subject to the work-hour limits in 46 U.S.C. 8104 and to the conditions when crewmembers may be required to work.

(g) The Master shall post watch schedules where they are easily accessible. They must cover each affected member of the crew and must take into account the rest requirements of this section as well as port rotations and changes in the vessel's itinerary. *(CGD 95–062, 62 FR 34539, June 26, 1997, as amended by USCG–2006–24371, 74 FR 11263, Mar. 16, 2009)*

**NMA VIEWS ON ERROR #4**

NMA Re-statement: We believe the District Court erred as a matter of law in finding that Leon Manderson failed to prove that Chet Morrison violated 46 CFR §15.1103(c) that prohibited Morrison from transferring untrained deck personnel to perform engine room duties, because Manderson supposedly failed to prove his actual work hours. The two issues are unrelated.
The District Court found Mr. Manderson failed to prove whether he was adequately relieved by a competent replacement as the M/V Jillian Morrison’s engineer.

The District Court held if Mr. Manderson had proved his work hours, the District Court may then have found Chet Morrison violated “46 CFR §15.1103(c)” which states: **Unfortunately, this was affirmed by the Court of Appeals.**

46 CFR §15.1103(c) Employment and service within the restrictions of an STCW endorsement or of a certificate of training.

(c) On board a seagoing vessel driven by main propulsion machinery of 750 kW [1,000 hp] propulsion power or more, no person may employ or engage any person to serve, and no person may serve, in a rating forming part of a watch in a manned engine-room, nor may any person be designated to perform duties in a periodically unmanned engine-room, except for training or for the performance of duties of an unskilled nature, unless the person serving holds an appropriate, valid STCW certificate or endorsement issued in accordance with part 12 of this chapter. [CGD 95–062, 62 FR 34539, June 26, 1997, as amended by USCG-1999–5610, 67 FR 55069, Oct. 30, 2002; USCG-2004–18884, 69 FR 58344, Sept. 30, 2004; USCG–2006–24371, 74 FR 11263, Mar. 16, 2009]

Mr. Manderson need not prove his actual hours worked to show Chet Morrison violated 46CFR §15.1103(c) by burdening him with untrained Able Seamen, a ship’s clerk or laborers who are not engineer officers or engineer ratings. Mr. Manderson, former Captain Frank Billiot, and former ship’s clerk Jason Giuliani presented uncontradicted testimony that Chet Morrison insisted Mr. Manderson accept **unskilled and unqualified deck crew as his “relief”**.

Chet Morrison’s assignment of untrained deck personnel to the engine room also violates 46 U.S. Code §8104(e)(1)(A), which prohibited Chet Morrison from assigning seaman from working alternatively in the deck and engine room departments.

Nothing in the language of either the regulation or statute conditions the statutes’ application upon proof Mr. Manderson worked excessive hours. On the contrary, the District Court failed to appreciate that Morrison’s **unlawful assignment of unlicensed Able Seamen and other untrained personnel to the engine room** is objective evidence the M/V Jillian Morrison was undermanned, that Chet Morrison failed to provide Mr. Manderson with adequate, trained, and qualified relief and, as a result, Mr. Manderson worked excessive hours in violation of 46 CFR §15.1111(a).

**NMA VIEWS ON ERROR #5**

**NMA Re-statement:** We believe the District Court erred as a matter of law in holding that Leon Manderson was contributorily negligent and/or that he assumed the risk in working excessive hours regardless of Chet Morrison’s acknowledged violations of federal manning and work hour limitation statutes.

Legal citations from similar maritime lawsuits provided by Attorney Mark L. Ross concluded that Chet Morrison’s relentless violation of work hours and manning statutes as well as Chet Morrison’s refusal to follow U.S. Coast Guard regulations designed to provide for the safety of seamen all reflect negligence by themselves **per se**, i.e., without reference to other facts in the case. In other maritime cases, for example, it was decided that...

- Violation of 12 Hour Rule for tug pilots contributing cause of collision.
- Plaintiff’s fatigue was a substantial factor in causing the plaintiff to fall overboard and drown.
- The strain of being on call often twenty-four hours a day was very stressful” and led to a stroke.
- Unshared strains, the innumerable equipment breakdowns, the interrupted sleep…all contributed to a vessel engineer’s tubercular condition.
- Excessive hours worked by vessel engineer caused a pulmonary embolism, and “constitute a patent violation of the Jones Act…”
- Defendant’s failure to follow U.S. Coast Guard regulations on the use of respirators is negligence per se.
- Absence of U.S. Coast Guard required line throwing device to rescue drowning crewman negligence per se.
- Violation of Coast Guard regulations requiring hand guards aboard fishing boat negligence per se.

The Jones Act expressly grants to seamen the rights and remedies available to railroad workers under the Federal Employers’ Liability Act (FELA). 45 U.S. Code §53 of FELA declares that the alleged contributory negligence of an employee is **disregarded where the violation of a safety statute contributes to the employee’s injuries or death**. The District Court’s conclusion that Leon Manderson is 100% responsible for his own injuries by “negligently” remaining on call 24 hours a day is erroneous as a matter of law.

Contrary to the District Court’s rulings, the manning of the M/V Jillian Morrison and setting of watches is a
The District Court erred as a matter of law in failing to find that Chet Morrison’s multiple work hour and manning statutory violations, coupled with Leon Manderson’s overwhelming evidence on medical causation, shifted the burden of proof to show its numerous statutory violations could not have caused or exacerbated Mr. Manderson’s injuries.

Mr. Manderson proved through largely uncontradicted medical evidence by medical experts that the 24 hour a day unrelieved, on-call work schedule Chet Morrison imposed upon him caused and/or contributed to the aggravation of his pre-existing ulcerative colitis and the first time onset of his diabetes mellitus II.

The Fifth Circuit Court of Appeal previously held¹ that the proof necessary to show medical causation between Chet Morrison’s multiple acts of negligence and Mr. Manderson’s injuries is slight. A Jones Act seaman is entitled to recovery under the Jones Act if he adduced probative evidence that the company’s negligence played any part however small in the development of his condition. The Court added that whether a Jones Act seaman’s evidence of a causal nexus between his employer’s negligence and the injury at issue “preponderates is irrelevant”. Rather, the test is whether the Jones Act seaman “proffered some evidence of such a nexus, and that is all that is required to survive appellate review…” [¹Davis v. Odeco, Inc.]

In other cases¹ this Court held a Jones Act employer’s negligence need not be the sole proximate cause of an injury, "but may merely be a contributing cause''. Chet Morrison is liable to Leon Manderson if Morrison’s "negligence played any part, even the slightest, in producing the injury for which damages are sought.” [¹Reyes v. Vantage Steamship Company, Inc. and Gautreaux v. Scurlock Marine, Inc.]

Chet Morrison’s persistent violation of work hours and manning statutes, as well as the vessel’s Certificate of Inspection should have shifted the burden to Morrison the burden to show the violations could not have caused or exacerbated Leon Manderson’s health problems and total disability. This Court held in simplest terms, that rule states that where a vessel is guilty of a statutory violation, the defaulting ship must show "not merely that her fault might not have been one of the causes, or that it probably was not, but that it could not have been.” [¹Candies Towing Company, Inc. v. M/V B & C ESERMAN.]

Chet Morrison violated the following statutes:
• 46 CFR §15.1111(g) that requires the vessel Master to post watch schedules.
• The M/V Jillian Morrison’s Coast Guard Certificate of Inspection by sailing one mate short.
• Violation of 46 CFR §15.515(a) and 46 U.S. Code §8101(d), that require vessels to sail with at least the minimum complement specified by the vessel’s COI.
• 46 CFR §15.725, that requires a vessel sailing with less than the crew specified in the COI to notify the Officer in Charge, Marine Inspection and file a “report of sailing short”.
• Failing to maintain an “automated engine room” as defined by 46 CFR §15.715,
• 46 CFR §15.801, that assigned to Chet Morrison the responsibility for manning its vessel pursuant to law;
• 46 CFR §15.705 and 15.1109, both entitled, “Watches”, from which the District Court erroneously exempted Chet Morrison.
• 46 CFR §15.825(a), that requires the person in charge of an engineering watch be a licensed assistant engineer.
• 46 CFR §15.1103(c) and 46 CFR §15.401 that require persons whom Chet Morrison assigned to the engine room to be licensed.
• 46 CFR §15.1111(a) entitled, “Work hours and rest periods”, that required Chet Morrison to provide Mr. Manderson with ten hours of rest per day including one uninterrupted 6-hour period.
• 46 U.S. Code § 8104(e)(1)(A) that prohibits Chet Morrison from assigning seamen to work alternatively in the deck and engine departments.

If the Fifth Circuit Court of Appeal presumes causation in the face of statutory violations, legal precedents show that Chet Morrison must overcome the presumption of fault. The U.S. Supreme Court\(^1\) held that a statutory violation raises this legal issue. Can it be said in this case that the statutory fault could not by any possibility have contributed to the Mr. Manderson’s disability? \(^{[1]}\)The Martello, (1894)\]

The District Court erred as a matter of law in failing to shift to Chet Morrison the burden of showing its myriad statutory violations did not cause or contribute to Leon Manderson’s injuries. This Appellate Court can find liability in favor of Mr. Manderson on this basis alone. Unfortunately, the Court of Appeals did not do so!

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**NMA VIEWS ON ERROR #7**

**NMA Re-statement:** We believe the District Court erred as a matter of law in failing to find the M/V Jillian Morrison was unseaworthy.

The District Court ruled that because “the Court does not hold the defendant improperly manned its vessel in accordance with statutory requirements, it cannot hold the defendant liable based on a minor violation of the Certificate of Inspection.”

The District Court found Mr. Manderson failed to prove the M/V Jillian Morrison was unseaworthy. The District Court’s ruling is clearly erroneous as a matter of fact and law.

Chet Morrison’s decision to operate its vessel in such a manner that Leon Manderson had to be on duty 24/7, without ever having a scheduled, licensed, competent person on board who could fully relieve him, rendered the vessel unseaworthy. As noted, the vessel lacked a Mate required by its COI, as well as additional qualified engineroom personnel. A vessel is unseaworthy when its crew is inadequate or incompetent. Legal precedents show:

- The duty of a vessel owner to provide a seaworthy vessel, including a competent crew, is absolute and non-delegable.
- Liability is imposed for unseaworthiness regardless of the vessel owner's negligence or failure to exercise reasonable care.
- An inexperienced and undermanned engineroom, together with the lack of automatic engineroom like that required by the vessel’s COI, all contributed to make that vessel unseaworthy.

Chet Morrison’s vessel boasted of **additional unseaworthy features** in that it stank like a country outhouse on a hot July day as a result of a defective sewage system up until the day the vessel exploded and sank. Furthermore, Morrison fired any Captain who voiced safety concerns and the vessel almost sank while docked due to the vessel’s physical deterioration. The District Court’s conclusion it could not find the M/V Jillian Morrison unseaworthy due to “minor violations” of the vessel’s COI is clearly erroneous as a matter of fact and law. Unfortunately, the Court of Appeals did not support these arguments!

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**NMA VIEWS ON ERROR #8**

**NMA Re-statement:** We believe the District Court abused its discretion in denying court costs to Mr. Manderson pursuant to F.R.C.P. 54(d) upon no other ground than the District Court’s erroneous conclusion that it is within its unlimited discretion to do so.

Although the District Court denied Mr. Manderson’s claims for Jones Act negligence and unseaworthiness against Chet Morrison and its dive vessel, the District Court granted Mr. Manderson’s claims for sizeable maintenance and cure and attorney’s fees. Mr. Manderson is therefore the “prevailing party” under Federal Rules of Civil Procedure (FRCP) #54(d)(1). Unfortunately, the Court of Appeals revoked the attorney fees the District Court assigned to Attorney Mark Ross but cut in half the judgment granted to Leon Manderson for maintenance and cure by deciding that Chet Morrison’s conduct was not “arbitrary and capricious.”\(^{[1]}\) [Appeal decision, pgs. 15, 16.]

The Fifth Circuit Court of Appeal previously ruled\(^{[1]}\) that a prevailing party under FRC. 54(d) need not win all or even the major portion of a lawsuit: “A party need not prevail on all issues to justify a full award of costs, however. Usually the litigant in whose favor judgment is rendered is the prevailing party for purposes of rule 54(d)... A party who has obtained some relief usually will be regarded as the prevailing party even though he has not sustained all his claims... Cases from this and other circuits consistently support shifting costs if the prevailing party obtains judgment on even a fraction of the claims advanced. [\(^{[1]}\)United States of America v. Mitchell and Wright & Miller.]

On Feb. 2, 2011, the District Court denied Mr. Manderson’s Motion to Tax Costs as the prevailing party.
Generally, if you are the prevailing party (e.g., Manderson), the other party (e.g., Chet Morrison) pays for certain costs of the trial, for example for the deposition of expert witnesses used in trial.

In this case, the District Court held that it had already awarded Mr. Manderson attorney’s fees and costs in connection with his maintenance and cure claims. Attorney Mark L. Ross stated that the District Court erred since it only awarded attorney’s fees but not costs.

The District Court further ruled that a prevailing party is entitled to have costs taxed against the losing party, unless the court otherwise directs.” The District Court believed it possessed unfettered discretion whether or not to award costs and chose not to do so and, in addition, gave no reason for its denial of court costs to Mr. Manderson.

The Fifth Circuit Court of Appeal mandates that where the District Court denies the prevailing party court costs, the District Court’s general discretion is circumscribed: “by the judicially-created condition that a court “may neither deny nor reduce a prevailing party’s request for cost without first articulating some good reason for doing so.”

FRCP 54(d) states a prevailing party is presumed entitled to court costs: Unless a federal statute, these rules, or a court order provides otherwise, costs-other than attorney’s fees-should be allowed to the prevailing party. The Courts hold FRCP 54(d) creates a presumption in favor of awarding costs to the prevailing party. Costs of obtaining depositions from “experts” the court recognizes are expensive, and we believe Leon Manderson is entitled to recover those costs.

CONCLUSION AND RELIEF SOUGHT ON APPEAL

In his appeal to the Fifth Circuit Court of Appeal, the Appellant, Leon Manderson, asked the Court to:

• Reverse the District Court’s denial of his claims against Chet Morrison Contractors, Inc. for Jones Act negligence and the unseaworthiness of the M/V Jillian Morrison
• To find that Leon Manderson proved by a preponderance of the evidence that Chet Morrison Contractors, Inc. negligently caused or contributed to the exacerbation of his ulcerative colitis, colonectomy and first time onset of his diabetes mellitus II;
• To find that the M/V Jillian Morrison was unseaworthy and that this was a substantial cause of his injuries;
• To remand this matter to the District Court to decide damages to which Mr. Manderson is entitled as a result of Chet Morrison’s actions.
• To reverse the District Court’s denial of costs to Mr. Manderson pursuant to FRCP 54(d) and award those costs in the total amount of $15,408.31.
• To award him for all costs and expenses incurred in filing this appeal.
• For all such further relief as this Court may deem just.

Problems Aboard the M/V Jillian Morrison Our Association Previously Reported to Coast Guard Inspectors

Our Letter to the Coast Guard Reported Before the March 11, 2008 Explosion

In November 2006 we received a report from a crewmember on the M/V Jillian Morrison that one or more unsafe conditions may exist on the vessel. We passed this information to the Coast Guard’s Morgan City Marine Safety Unit and asked that their marine inspectors check it out at their next inspection opportunity. The mariner who making the report had with many years experience in the Gulf on both inspected and uninspected vessels and could supply further information as may be required. We understood that Coast Guard inspectors performed a “topside inspection” a week earlier. The mariner wanted us to withhold his name for fear of being “blacklisted” within the industry. The report included the following safety issues:

• The laundry room reportedly had a 220-volt junction box that located at or near deck level (about 3” above the deck) on the second deck. There is concern that if a washing machine spills water onto the deck that that water could slosh onto the junction box because it is so close to the deck and could electrocute a crewmember. He pointed out that the deck drain to the laundry room doesn’t always work and the water often overflows the drainpipe.
• In the shower room, there are two hot water heaters whose thermostats are set so high that there is a danger of scalding and that the hot water heaters are not fitted with safety valves normally found upon hot water heaters.
• The emergency lights that illuminate the vessel’s four liferafts did not work and the electrician could not find why they did not work.
• The vessel’s single sideband radio reportedly did not work.
• The compass deviation card did not exist and there was no evidence that the compass ever was calibrated.
The tachometers for both main engines were inoperative.

The cook complains of electric shocks when he touches the stove and the deep fryer.

reported lack of support from appropriate company personnel when he reported a badly frayed mooring cable on one of the “four-point” anchors. He was subsequently unable to recover the cable using his anchor winch. He noticed the problem and expressed concern that divers would be working underwater in the vicinity of a frayed anchor cable that was likely to part. Such a frayed cable, or even a cable with only a few “fishhooks,” has the potential of causing significant personal injury to a diver underwater. Rather than to continue to use the cable, he cut the damaged cable, buoyed it off for future recovery, and returned the boat to shore to change out the damaged cable with the intent to return to the dive site in open water in South Timbalier Block 140. For making this decision and apparently based on the additional expense it incurred, he was terminated and replaced by the company. This led him to believe that this company placed profit above personal safety.

also reported that the company does not use lift bags to support the weight of the steel cable as the vessel moves into position over an underwater site – in this case a pipeline valve. It appears that the maneuver ruptured the valve or pipeline as shown by the photos and an “Incident Summary” reported by the supervisor.

cited a superior system used by Cal-Dive on their vessels. He also mentioned that workers for Cal-Dive are not expected to work over the side of the vessel with the type of safety implications explained below.

The most significant item, however, dealt with the status of the vessel’s four-point mooring system as described from detailed phone notes passed on to the Coast Guard inspectors our Association asked to look into the matter.

The vessel’s four anchors were attached directly to steel cables, which are lowered and raised by winches – one on each side of the bow and stern. These anchors are held outboard of the hull by a metal framework called (and resembling) a “cow catcher” preventing the anchor shanks from being pulled into a hawsepipe as on a conventional offshore supply vessel. The four winches spool the four wire ropes onto four drums and do not use chain. Therefore, the deck machinery is classified as winches and NOT windlasses. They work with 7,000 lb anchors.

When the anchor is lifted it is pulled up to the “cow catcher” with the flukes held under the cow catcher framework. The anchor is secured by the “cow catcher” by tension in the cable that is held by a handbrake and by constant air pressure. The handbrake alone will not hold the anchor. If air pressure fails, the anchor can drop suddenly. Consequently, when underway or at the dock the anchor is secured to a padeye on top of the bulwarks and directly to the swivel on the top of the anchor by a short length of approx. 5/16-inch chain. This chain is independent of the anchor and must be put in place manually. On this particular vessel, the bulwarks have not always been strong enough to support the weight of a 7,000 lb anchor. Consequently they repeatedly bend, and are reinforced by welding, and then bend again. In addition, part of the strength of the bulwarks was removed by cutting the swinging door in the bulwarks.

Our concern is with the method of securing the anchor to the cow catcher. In order to secure the anchors on the bow, a mariner must open one of the swinging steel door cut out of the bulwarks on the port and starboard side giving access to the cow catcher. He must step out onto a small platform about a half-foot below the main deck level, while holding on to the bulwarks. Finally, he must hold onto a sheave (or roller) over which the anchor cable passes. He must then go to his knees on the small exterior platform only about one and one half to two feet wide that is directly above the anchor secured to the cow catcher. The anchor flukes are pointing upward to the inside of the cow catcher. The platform is often greasy as a result of the grease used to lubricate the sheave. Excess grease drips or sprays from the sheave onto the small platform making the footing dangerous.

Once on his knees, the mariner then held on to the vessel with one hand while kneeling on the small platform outboard of the hull and constrained by his work vest. He must then accept a piece of chain fed to him by another crewmember on deck, reach down to his full arm’s length with his other hand and thread the chain through the eye of the swivel attached to the shank of the anchor. He must then take the loose end of the chain and, after pulling as much slack out as possible by hand, rise from his knees, and apply a chain binder so the anchor will remain in place at sea. All this takes place outboard of the vessel’s hull.

Apparently, three or four men are required to participate in this process. However, the Master reported that no restraints or harnesses are used to secure the mariner who remains outboard of the bulwarks.

We asked the Coast Guard, at the next dockside inspection of this vessel, that the crew be asked to perform this evolution and that it be evaluated in its entirety by the Officer-in-Charge Marine Inspection to ensure the safety of the participating mariners.

Our concern is based on the possibility that a mariner without proper restraint harness would slip from the small platform outboard of the hull and injure himself falling on the crown of the anchor held in place by the “cow
catcher.” Also **consider that this evolution must be performed offshore in a seaway** even though we only ask its demonstration take place dockside. Also consider that during cold winter months, the temperature of the Gulf waters approaches the 59 degree cold water survival threshold of NVIC 7-91 and that recovery operations may be restricted by the vessel’s role in offshore construction activities. We also ask that the use of a safety harness be evaluated under actual working conditions.

On Nov. 27, 2006 we reported that the M/V Jillian Morrison was at her dock and urged that the Marine Safety Unit send out an inspector. After going through a FOIA request to Headquarters seeking information in regard to the requested inspection, we received a very abbreviated report that led us to make this statement in a letter to the Commanding Officer of MSU Morgan City on Mar. 7, 2007. “(I cited)...a unique situation that apparently exists on that vessel that the Master was particularly concerned about. I would hope that the inspectors were given a copy of our letter before visiting the vessel. However, I do not see whether this particular area of concern was addressed during their visit. The area was of concern because it requires seamen to work outside the bulwarks of the vessel in open water. I believe to check that, it would be necessary to determine whether the evolution in question could be performed safely by the crewmembers in the opinion of the inspectors. Perhaps this was checked, but I cannot determine from the inspection report. Perhaps the Coast Guard is not allowed to put crewmembers in danger by actually performing the evolution. If not, a demonstration or explanation citing the safety equipment available or in use probably would suffice considering the conditions that were normally reported existing on the vessel as described in our letter.”

[NMA Comment: We never received a reply to our letter from the Commanding Officer of the Coast Guard Marine Safety Unit in Morgan City, LA. The question became moot after the Jillian Morrison exploded, sank, and was scrapped. We chose not to follow the case beyond this point.]

[NMA Comment: The Court of Appeals affirmed most of the District Court’s decisions in this case and the results were as devastating to Chief Engineer Manderson as to our Association]
CHAPTER 15
MARINERS TELL OUR ASSOCIATION OF THEIR CONCERNS

Introduction

During the President’s Day weekend in 2009, Captain Jordan May, co-director of the Master of Towing Vessel Association (MTVA) asked for my opinion about ranking the 10 most important issues facing our mariners. “Work Hours” ranked near the top of my list. Suddenly, this issue assumed a life of its own, and I was snowed by over 30 e-mails containing a number of solid ideas. Some e-mails and calls were sent to me directly while others were replies to copies of my letter to Captain May. I organized the key points and shared them with our mariners. (1)

To keep the discussion issue-oriented, I identified each comment with a unique mariner identification number, for example, [78]. As editor, I added my comments identified by [59]. I added captions, added emphasis, occasionally clarified some thoughts but tried not to change the wording of individual comments.

Better Utilize Experienced Personnel

Here is one possible solution to remedy some of the personnel shortages reported in the towing industry. Observers noted the advancing age of merchant mariners with average experience being diluted by fewer and fewer mariners entering the ranks. Mariners who accumulated years of licensed experience are often forced into a premature retirement that they may not welcome because they no longer hold “active” Coast Guard licenses. For one reason or another, possibly for health or other reasons, they chose or were forced to have the Coast Guard renew their licenses “for continuity purposes” only. Consequently, they are no longer able to perform the navigational duties of a Master and/or Mate/Pilot. Often, when they go ashore, the industry loses the benefits of their years of service and their experience.

Many of these former Masters and Mates/Pilots have the training and management skills that would allow them to handle some of the routine duties that often force watchstanders to violate the 12-hour rules. Without piloting the vessel, many of these individuals could:

● safely carry out the functions of Vessel Security Officer.
● correct vessel charts and publications.
● offer advice in building tow and fleeting operations.
● monitor the new NPDES General Permit requirements.
● conduct routine communications and correspondence with the “front office.”
● file accident reports promptly and properly.
● follow up on individual vessel maintenance issues.
● order supplies.
● sign off on repair work performed on the vessel by maintenance personnel and/or outside vendors.
● assist the crew in many ways such as by conducting in-house vessel inspections and audits.
● maintain vessel records required by a safety management system.
● conduct on-board training and drills including instruction in newly-installed equipment.
● stand watches when the vessel is not underway while other crewmembers rest.
● perform Designated Examiner (DE) tasks if previously qualified to do so.

These are many of the tasks these licensed officers performed by default in the past. They would be allowed to do everything except to pilot the vessel unless supervised by a fully-licensed officer. These senior retired officers could take the place of a “Roof Captain” (similar to a “Staff Captain” on large passenger vessels.)

Companies could make decisions to employ these individuals on a case-by-case basis. They would be expected to provide limited pay and benefits in return for limited light-duty, non-navigational but increasingly important peripheral services that otherwise would have to be performed by fully-licensed Masters, Mates/Pilots, and Engineers. Many of these mariners would be on Social Security and would be able to supplement their monthly checks to better provide for their families. Also many would be on Medicare, so the company would not incur additional insurance premiums. Utilizing these personnel for non-navigating duties could be on a case-by-case basis under “guidelines” such as found in a NVIC. While this would be an added expense for the companies, the advantages far outweigh the costs. You have the benefit of all that experience in emergencies. Pilots who are struggling could have a mentor to, not only expand their skill set, but relieve the anxiety and breed the confidence.
necessary to perform at a level that is safe and will result in the company making a profit. Add to that, they could act as a “posting pilot” whenever a Master or Mate/Pilot is assigned to operate in an area he is not familiar. Under such a plan, everybody wins. [91]

Teach Apprentice Mates/Steersmen to Handle Additional Duties

In recent years, an increasing amount of paperwork and additional administrative duties have become required aboard towing vessels. Very little about these collateral duties appears in the typical 10-day Apprentice Mate/Steersman course; nor is it covered by the current Towing Officers Assessment Record (TOAR) that represents “hands-on” experience afloat. Part of pilothouse training period should include training in how to manage the paperwork load as well as other “additional duties.” These duties include many of the duties listed above. An Apprentice Mate/Steersman needs to be entrusted with completing some of these duties by the officer(s) who instruct them. For example, standing watch while the vessel is not underway would allow the Master or Mate/Pilot to carry out their navigational duties more effectively when they did not have the opportunity to gain restful sleep for any reason on their previous off-duty rotation. After all, an 84-hour workweek expected of these fully-licensed officers is much longer than an average 40-hour work-week afloat. [91]

New Towing Vessel Rulemaking Ahead

• Mariner resistance to change is as big or even a bigger problem than the regulations themselves. [86]

• Decide the big issues first (and address the) small ones later, if possible. [84]

• Having (any) significant impact upon the USCG concerning (watches) i.e. 6/6, 8/8, 4/8, 12/12 or other issue is extremely difficult unless there is a general consensus among individuals and labor and as (if) possible the operating companies. In general terms such a consensus is difficult if not impossible to obtain even within one faction of the industry let alone across all elements. The government knows this and uses it against the entire industry to do what they think is best in the absence of any consensus. [84]

• think that this may be the time to modify the law/regulations concerning manning violations. In the past any people who complained about manning violations had probably broken the same manning law themselves and was therefore at risk more than the employer who ordered it. However, proof against one is automatic proof against the other. [84]

• (Remember) the industry itself (AWO) went running to the Coast Guard when they actually thought they were about to be invaded by OSHA after the Supreme Court ruling in "Mallard Bay" drilling company case in 2000. [90]

• (Therefore,) we must find a way that encourages complaints of violations to the regulators while not exposing operating personnel that are making the complaint to possible suspension and revocation proceedings. Maybe it is as simple as offering immunity to any individual who complains about non-compliance with “the 12-hour rule” or other manning issue…. It is a starting point for the dialogue. Whatever the answer it should be included in regulation and maybe law. [84]

• Then there's the complete lack of enforcement by the Coast Guard. This is a political problem that no regulation change will fix. [86]

• “Crew Endurance Management” (CEMS) doesn’t do squat for you other than making you aware that you need to squeeze 7 hours of rest in a 5½-hour period. [83]

• Since the towing industry is attempting to become “inspected” what about the adequate rest for mariners on vessels, including inland towing vessels. There are many more towing vessels than there are blue water vessels, and they can carry just as hazardous a cargo as ocean going vessels. They are also a lot closer to bridges and cities that are highly populated. Safety of the environment, crew, vessel, cargo and the public must be the first option. [83]
(At a TSAC meeting somebody) …stated that if their mariners are tired, they are allowed to tie up to a fleet, etc. to get adequate rest. My recommendation is that (the Coast Guard and the towing industry) consider this option once every two or three days (of allowing mariners on 24-hour boats) to catch up on (their) sleep. You would comply with the law and the Coast Guard would have (evidence) in your favor in that you are reducing fatigue and (reducing) the possibility of causing an incident. [83]

Limiting "duration" of rotations in the two-watch system will serve as an appropriate stop-gap measure until regulators force our masters and employers into a different state of mind. [90]

Any schedule you can imagine will still be the same 12 hours a day we are being paid to stand watch. We all know that horse-trading will be done, but constantly harping on the three-watch “pipe-dream” will only diminish the credibility of all concerned. The issue needs realistic and reachable goals. [85]

One I would like to positively reinforce is that each and every one of us has our own 'body clock' and needs a slightly different sleep pattern. The responses all confirm this divergence of need. But there seems to be 'aggravation' felt by all, since no one has 'the magic bullet' answer to this. [87]

I've tried the altered (CEMS) schedule and found it lacking. The mate/pilot will still be faced with a more demanding schedule than the master. [85]

Everyone also needs to remember that what the MTVA and NMA will submit as a package of recommendations that are meant to positively reinforce each other for a greater effect than what each might have alone. [86]

We will also encourage individual mariners to read the rulemaking package and submit their own informed comments. [59]

Less noise and vibration equals better quality rest, which may make a less-than-ideal watch schedule more tolerable. Couple that with placing a legal limitation on the number of consecutive days an individual can work outside of a three-watch system (along with a minimum amount of off-time between hitches for body recharge) and we might just have improved things in a measurable way. [86]

After two (or) three weeks, fatigue starts to set in! What about “tripping” on days off? If you run 35 or 40 barges on the Lower Mississippi River for 30 days and then go make a trip….pushing red flag barges, is that safe? I say no it is not! Travel time is a big issue with some of these companies – (sometimes) 12, 14 or more hours riding in a crew van and then getting on board and immediately expected to go on watch is unsafe. But who cares? Some companies are addressing travel in a positive manner! All said, there have been some….positive changes made out here although it took an apprentice steersman on the UTV Mel Oliver to bring about those changes! Sad isn't it! [80]

Limiting total days worked per single rotation will by far best serve the working mariner and at the same time save the company's millions of dollars. Insurance related health care cost savings will benefit the company. Insurance premiums will drop due to large reduction in accidents both physical and navigational affecting both equipment and (waterways) infrastructure. [79]

Overall noise levels, and ambient noise makes for less “quality” sleep. Everyone's hours required for sleep are dependent on the individual vessel noise level. Six hours sleep on one vessel doesn't equal six hours sleep on another noisy, vibrating vessel….getting an industry-wide inspection for interior noise levels in quarters and galleys as a start to get overall living conditions at least to an acceptable standard. [87] [Refer to NMA Report #R-349.]

So let's put that aside and shoot for inspection standards that will meet the needs of a quieter and more rest = friendly environment aboard and drop this issue of altered watches. [85]
If we back off on the manning then the other improvements we seek (noise/vibration reduction, proper interior lighting, etc.) have a much better chance of making it through the regulatory mill. Like it or not, this is a political process, and politics is the art of the compromise. [86]

The industry must accept that something needs to be done to change the sleep deprivation issue. One thing can be assured is that if one solution can be found, the Coast Guard won't be the agency to do it[1]. The industry (US) will have to find it on our own. [87] ['^]'Refer to our Reports #R-304 & #R-305 to see how the Coast Guard treats its own personnel.]

It doesn’t make much sense to have people making rules for us that do not know anything about a towboat or working in the conditions our mariners have to work. Exactly how many of the people making these (regulations) with the Coast Guard actually have (ever) worked on tow boats. [88]

We see this problem in the complaints about towing officer licensing regulations and the new “Medical NVIC” and the way the regulations are administered by the National Maritime Center. [59]

The manning issues the industry is faced with right now are not going away….I hate to admit that it will take a "Mel Oliver" or two to get people's attention so we can make things a little better each time [85]

Changing the Watch Schedule

There would have to be a serious reworking of the schedule, such as changing the watch start times: [Front watch 2100-0400 on, 0400-0900 off, 0900-1400 on, 1400-2100 off.] Meal times would be unnaturally early or late requiring a short period of adjustment physically, but a huge one mentally. [85]

Nowhere in the law does it state where or when the 24 hour period begins. Most companies look at it as starting when you get on the boat, some look at it when you leave home going to the boat and then ... others just don't worry about it. This needs to be clarified in writing and complied with. Also, if it could be better defined as to where the 24 hour period begins at midnight, just as everyone knows a new day starts then....

I know that it's not as clear as you (and many others including myself) would like it to be, but it does cover us adequately if it is obeyed. Basically, you can pick any random time and date in the log book and then go exactly 24 hours ahead or back. If within that (or any other) randomly chosen 24-hour period you've been on watch for more than 12 hours (except in an emergency) then you are in violation. [80]

Rethink the Crew Endurance Management System (CEMS). When you work either the 8 & 4 or 7 & 5 system, the Captain gets all the nighttime rest and does 95% of the steering in daylight hours with the pilot getting 95% of sleep during the day and drives mostly in dark hours. We all know that most of the new pilots are the least experienced wheelmen there are now, and not having experience and driving at night is a hazard. Personally I feel that we should reevaluate the 12-hour rule and better define it, with the 24 hour clock starting at midnight, since that is when a new day starts. If they could redefine it and we could work an 8 & 8 schedule, we all would be better rested and work every other night. [80]

It takes people to run a boat...We need more people to run boats safely. [92]

Emphasize Safety

In this recession, manning and watchstanding are usually the first places to cut. This is the trend in all industries and a fact of life. It also throws safety to the winds!

Aboard a towing vessel crewed by only two men, if a deckhand falls overboard the only other person aboard to come to his rescue is in the person in the wheelhouse steering the tug – and he cannot be in two places at the same time. Most fatalities in the towing industry result from falls overboard. In addition, should an emergency occur aboard the tug, such as a system failure, engine shutdown, or a fire in the galley, who responds when the “Deckineer” is off the tug landing a barge or handling lines on the dock?
• Any AWO member company operating a vessel with only two crewmen cannot safely respond to an emergency and should lose their RCP certification. Other AWO members that operate vessels 24 hours a day with a single crew on standby, or operate without engineers, or have deckhands or mates conducting security checks in engine rooms, or conducting other duties during rest periods have stepped below AWO minimum standards and the practice of good seamanship. AWO needs to require its members to practice in the field what they preach on their certifications and their SMS documents. [130]

• Make it mandatory for companies to furnish some type of light that works and blinks at night when the deck crew is on the tow or outside. Some companies furnish this type of light, and some don't want to spend the money. We all know that if someone falls overboard, they more than likely panic or they may even be hurt, and with a light attached to the life jacket that has to be manually turned on, and the crewmember is hurt or unconscious, there is no way for them to manually turn on the light. ACR Electronics has a strobe light that is water activated and can be seen for up to 5 miles. I bought one for my life jacket as well as an EPIRB. [80]

• The Industry and the Coast Guard must address the number of men lost overboard from tows immediately. [59].

• Make it mandatory that all new deck crewmembers go thru a training course before they set foot on a boat. [80]

Enforcing the 12-Hour Rule

• Some creative interpretations by some local Coast Guard officials and some towing companies (including certain AWO-member companies) count as “work hours” only those hours when a towing vessel is actually underway. Coast Guard policy letter G-MOC 04-00, Rev. 1, defines work as “any activity that is performed on behalf of a vessel, its crew, its cargo, or the vessel’s owner or operator. This includes standing watches, performing maintenance on the vessel or its appliances, unloading cargo, or performing administrative tasks, whether underway or at the dock.” We worked hard to obtain this policy statement from the Coast Guard almost 10 years ago! We ask that the Coast Guard take the time to enforce it! [130].

• Say a Captain worked on a day-boat or (one that was) manned like a “Day-Boat” and was on 24 hour call. That means the crew lived on the boat. (Although the Captain) made sure he didn't work over 12 hours, but he never worked a steady schedule. His hours would be scattered throughout the day. Would the Coast Guard look at the log and question if the boat was a 24 hour or a day boat? It could read like this, 2 hours on, 2 hours off. I see towing companies are starting to do this in order to eliminate one licensed wheelhouse position. [89]

• The U.S. federal regulations (with one exception) do not stipulate how your off-duty time may be broken up, just that you may not be on watch and/or work for more than 12 hours in any consecutive 24 hour period. So you could conceivably work a watch schedule of 1 hour-on / 1 hour-off forever and it would be perfectly legal. Under STCW '95, however, one of your rest periods must be of not less than 6 hours in duration. Unfortunately, this STCW requirement doesn't apply to most towing vessels and certainly not to day boats working in a harbor or on a river. [86] [13] Refer to our Report #R-370-H, 12-Hour Rule Violations: Harbor Tugs and The “One-Watch” System.

• 46 CFR §15.1111(g) states “The Master shall post watch schedules where they are easily accessible. They must cover each affected member of the crew and must take into account the rest requirements of this section as well as port rotations and changes in the vessel's itinerary.” While this may apply to operations under STCW, we encourage Congress to apply it to all towing operations and to require two full crews in vessels in 24-hour service...a fact of life in regulations that already cover small passenger vessels operating more than 12 hours in any 24-hour period. [130]

• The Coast Guard, if they ever bothered to look at it at all, would really only be looking at whether or not the boat was in service for more than 12 hours a day. If it were, then two (2) licensed operators would be required. The term "day boat" is a slang term that does not exist in the regulations. As far as the Coast Guard is concerned, everything depends on the hours of service of the operators. It's either 12 hours or less (what we call a day boat) or over 12 hours (requiring a master and a mate). There presently is no legal limit on the hours that
unlicensed seamen like deckhands, tankermen and unlicensed engineers on towing vessels may be compelled to work by their employer or the vessel's master. [86]

In reality, it is virtually impossible to use a "day boat" that is busy with just one operator and not violate the maximum work hour regulations at some point, nor is it particularly hard to prove. Remember, you can pick out any time you like in the logbook and go backwards or forwards from it 24 hours. If within that or any other randomly chosen consecutive 24-hour period the operator has stood more than 12 hours of watch then a violation has occurred. Despite what some companies say, the clock doesn't start and stop when the vessel gets underway and ties up. Any of the usual work related to the job (communications, planning, logistics, maintenance, administrative duties, etc.) counts towards the 12-hour limit. Travel time, while not counted as work time, does count against your rest time. This also needs addressing in the new regulations. [86]

Furthermore, 46 USC 8104(a) requires the following: An owner, charterer, managing operator, master, individual in charge, or other person having authority may permit an officer to take charge of the deck watch on a vessel when leaving or immediately after leaving port only if the officer has been off duty for at least 6 hours within the 12 hours immediately before the time of leaving. This would be impossible to comply with in the completely random work schedule one would expect to see on a "day boat" in 24-hour service with only one watch. It is my understanding…that this applies to a vessel whenever it gets underway, regardless of whether or not it is actually "leaving port" in the physical sense. [86]

The return of the single crew “day-boat” is about as welcome as the return of polio to the towing industry’s approach to crew safety. Safety improvements brought to the towing industry in recent years by the Coast Guard, the American Waterways Operators, and the Towing Safety Advisory Committee are overshadowed by the return of the single-crew tug. I know first hand what risks a mariner is willing to take to put bread on the table. If it means the difference between a pay check some mariners will run into a hurricane. I am glad those days of the “day-boat” are gone along with the bells and jingles. However, the “day-boat” didn’t end because of safety concerns. It ended because it became too costly as a result of the damage and injury law suits that resulted. [130]

To get anywhere with this would require having the Coast Guard decide that it was an issue that must be addressed. As I said, that is a political problem more than anything else. Unless someone with enough juice to make it the Coast Guard's priority decided to do so, nothing is likely to happen until an accident causing sufficient public outrage occurs. [86]

Watch Preference: The Three-Watch System

I don't believe that we're going to get that unless a timely fatigue-related accident with multiple civilian casualties just happens to land in our laps during the rulemaking period. I'd personally love to see the three-watch system implemented. But we'd be fools not to have a Plan B in the (likely) event that the quest for three-watches fails. [86]

I think we all know the answer to many of the problems is three watches. Is there any way to hi-jack the "agenda" to this end? Short of our industry experiencing a high-profile, clearly fatigue-driven accident that is thoroughly and truthfully investigated by the federal authorities, I have no idea. [86]

I will take advantage of the regulatory forum when the opportunity presents itself during this rulemaking process. I have every intention of making a very strong written case for the three-watch system being adopted for safety reasons by the towing and oilfield industries when I submit my personal comments on the upcoming NPRM for Towing Vessel inspections. This will be a part of the permanent record in the docket and can be referred to as needed in the future. But I know full well that the Coast Guard is going to disregard them as not being "within the scope" of the intended regulations. They will say that Congress directed them to bring towing vessels under inspection, not specifically to change the Manning standards. In this they are correct. I've read the law myself. If Congress had intended to change the Manning standards they could easily have directed the Coast Guard to do so, even using broad language. They did not do this. If that was their unstated intent, and it is instead contained in any of the conference reports that preceded the law's passage, then they'll have every opportunity to say so and demand that it be incorporated as the rulemaking unfolds. I have neither heard nor read anywhere that altering the Manning and watches was part of the legislative or regulatory agendas, even
though it should have been.\(^{(1)}\) Time will tell. **Of course, to bring previously uninspected vessels under inspection without thoroughly reviewing the manning standards for their adequacy is absurd.** Sometimes legislators and regulators do absurd things. C'est la vie. \(^{(1)}\)Refer to Rep. James Oberstar’s letter in Chapter 6. This letter expresses clear intent to include manning in towing vessel inspection regulations.\]

I believe that if we really want to see the three-watch system become the legal standard aboard tugs and OSVs (on voyages of 600 nautical miles or less) then we're going to have to find someone in Congress to sponsor and push such legislation. For this to happen regrettably may require a spectacular accident that we can capitalize on to prove the point and get the political interest jump-started. This country has a long history of not attempting to fix a problem until the body count goes high enough to catch the public's interest and generate outrage. I wait patiently for that time, if that's what it comes to.

What I do not intend to do is allow myself to become bogged down on this issue and allow it to distract me from getting the details right on all the many other inspection issues that we must get right the first time. I sincerely doubt that we'll be revisiting the new towing vessel inspection regulations again anytime within the next couple of decades. We've got to do everything in our power to make sure that we can live with whatever comes out in the final rule. [86]

- **What I see is a willingness to let the opposition decide what the argument is. He who sets the agenda wins the prize.** The object is not to decide how to accommodate the 12-hour rule, but how a Captain can meet that requirement and still fulfill the responsibilities required by the companies with regard to a safety management plan, the CEMS, and the requirements made mandatory by Homeland Security and the time required for the Captain to be the Vessel Security Officer. **This is an argument the companies cannot win. If any of these requirements can only be accomplished by a navigation watchstander while off watch, in a 24hr period when the vessel is underway, they are breaking existing law.** The question then becomes how does management plan to solve this conundrum. The Coast Guard has already stretched the 12-hour rule by requiring Pilots and Captains to work more than 12 hours to participate in drills. They have given tacit approval for all of the above. Where do we draw the line? **I have spoken to many in management and nobody has an answer, plus it makes them nervous as hell.** [91]

- **The answer isn't more law, it is enforcing the laws we have** and making them apply to the whole crew, call watches and single engineer boats are inhumane. I have personally explained this to several Congressmen including James Oberstar, and Elijah Cummings at a USCG hearing. One of those Congressmen commented if a third world country would adapt a system like our call watch system on towboats, they would be cited for human rights violations. [91]

**Watch Preference: 12 & 12**

Nobody showed a preference for this schedule that is widely used in the offshore oil industry.

**Watch Preferences: 8 & 8**

- I will work any watch except the straight 12-hour watch. That is just too long for anyone to stay in the wheelhouse, especially when the mate/pilot is stuck working from 0001 to 1200 hours...As far as the 8 & 8 watches, I personally like them. Yes, it can be hard at times for the body to adapt, but I usually only sleep 5 to 6 hours at a time anyway. Working the 8 & 8 still allows me to get the required sleep "MY" body needs to rejuvenate itself. [80]

- I've tried the new watch rotations and they are no better than 6 & 6 watches. I (believe) “rolling 8's” are even worse. [90]

- I am dead set against the so-called “rolling 8's” watch schedule. Standing that schedule is, to me, far worse than 6 & 6. Every 24 hours your body has to adjust to a wake-sleep cycle that is the exact opposite of what it was the day before. What the body craves is a rhythm, and even a relatively poor one (like 6 & 6) is preferable to one that reverses itself every 24 hours. That's not something that can be adapted to and it goes against all of the known scientific studies of the sleep needs of humans. I would much rather expend effort to get the manning standards changed or, failing that, getting the reluctant professional mariner community to make a bona fide attempt at trying out the alternative watch schedule of 7-5-5-7. [86]
The rules and regulations do not permit the 8 on 8 off because in ONE day one mariner will work 16 hours and the other 8 hours. The next day the other mariner will work the 16 hours in the day and the other 8 hours.

Watch Preferences: CEMS 7-5-5-7

- No, 7-5-5-7 is not perfect, it doesn't address the early morning issues of just before dawn that causes so many Mate/Pilots to be sleepy in spite of their caffeine levels.
- You're going to have a hard time convincing me that a schedule that allows for the primary rest period to be one hour longer than it is now is any better than 6-6 watches. [86]

Watch Preferences: 6&6

- I would think that the 14-14 day schedule is the most you should be faced with for a work rotation on 6 & 6. Any longer creates the kind of weariness that makes us that much more vulnerable to fatigue related errors in judgment. For myself, I've been working 6 & 6 watches since the 80's, and I'm reasonably comfortable until the hitch runs past 14 days. [85]

- The 6-6 rotation in itself is not the issue for the professional mariner who has done it his entire life... It’s the duration in which these companies expect you to perform at that level... For myself I know I start down hill after 21 days... and I also know I would do better if I only worked 14 days at a time.....what really needs to be done is put a stop to person coming out and working 30-90 hitches at a time as a stop gap measure.... Sure it would cost the companies a few dollars more for additional turnovers, but it’s a damn site cheaper than trying to figure out how to crew the boat with three deck officers. [90]

- Note that the IMO and the International Transport Workers Federation have come out against the 6 x 6 watch and that can be fuel for the fire. If it is unacceptable internationally, why is the U.S. the only ones in favor of it? [83]

Coast Guard Watch Standing

I am not all that familiar with the established protocols used in the private sector. I have spent most of my underway watches in a three watch cycle on cutters and have little experience with a two watch cycle. Only on rare occasions, did we get underway for urgent SAR with only two watch standers (Qualified U/W OODs), so I’ll stay away from these structured watches and the related issues as they pertain to labor agreements. In the Coast Guard, a two watch cycle was used only in emergencies, under considerations outlined in the instruction I sent you. I do not believe I am sufficiently familiar with how they are being applied within your industry, or the impact they’ve had to make me qualified to address those issues in any depth.

I’ll limit my input to the issue, which watch-standers/crews can control at the present time. There is no 9-5 option in maritime operations and fatigue is a factor in that has to be monitored constantly when underway. During my career, I spent a good deal of time in New England waters and much of that underway time was during winter recovering disabled commercial fishing vessels out on the fishing grounds. We even had an occasional response to a towing vessel, where a towline had parted and we assisted in recovering the barge. Murphy’s Law insured that a typical SAR case would come during inclement weather and insured it interrupted us in mid-sleep cycle. From a warm bed to underway in rough seas, was about a one-hour transition, barely allowing a cup of coffee to have much effect.

On our patrol boat, I was the youngest of the three qualified watchstanders and grateful to be the only one not affected by motion sickness. After the 45 minute drive to the boat, I was wide awake and always preferred the first watch. It was a busy one during which, we got our initial “sitrep,” made all our underway preps, established our initial communications and establish our regular “comms” schedule with the distressed vessel and began our plot. This along with numerous other activities, made that first watch, pass all that much quicker.

The skipper was a young man who was only mildly affected by motion sickness; could adjust rather quickly to rough sea conditions, and just needed a short period of rest in his rack when the pounding first started. That brief initial rest was all he needed in order to get through the physical transition. The chief, on the other hand, lived with a seasick bag nearby constantly at the ready, especially whenever we were heading out in gale-force weather. On the cases where there was no letup in the sea-state, he would suffer through the entire mission, but to his credit, always pulled his own weight.

With this as background I want to explain, why all in all, we were able to mitigate much of the situation’s discomfort, making underway in the toughest times more tolerable and routine operations even pleasant, although we had very limited options. Like any other vessels in our fleet, our instructions held us to very structured and
tight watch keeping standards and rigid military conning/bridge protocols, but as a small crew of close friends, we were very aware of each others indicators of fatigue and willing to be flexible, especially on long cases in extreme weather.

As I mentioned, I was always glad to take the first watch, which gave the skipper time to adjust and by the time he was good to go, and had his first watch under his belt, the chief was about as good as he was going to get in rough weather.

But it was also common that none of our normal rest cycles, ever seemed to align with the watch rotation schedule and, as time progressed, fatigue would take a toll on each of us. For the three of us, it was not uncommon to offer to break the normal rotation, since the watchstander on duty would be feeling extremely tired and one of us that was not on watch, usually had about all the rest they were going to get, so why not jump in and give them a chance to rest at that moment when they were likely to actually get some sleep. **(This was) not a traditional approach, but one born of practicality in a demanding environment and possible only due to the personal trusts and friendships that existed within that crew.** I can say honestly, no one ever abused this option of flexibility, not even the Chief who suffered the most in rough seas. It even served me and the skipper on the rare occasion when he felt the need to leave the dock with only seven of the ten crew members and two OODs, due to the urgency of the case.

I realize this no end all solution, but for those with the disposition/inclination to employ the same flexibility in their two/three watch schedules, it might bring some measure of immediate relief, while seeking a long-term resolution. [94]

[NMA Comment: Many companies discourage close friends or members of the same family from working together on boats. One side effect is that developing the same “personal trusts and friendships” as expressed above often must start from scratch on almost every voyage. Merchant mariners deeply appreciate the success and dedication demonstrated in the Coast Guard’s SAR activities. However, the SAR mission is separate and distinct from the Coast Guard’s “Marine Safety” mission and must be evaluated separately.]

Exhausted sailors working 98 hour weeks [93]

*Source: By Caroline Gammell, 12:02AM GMT 19 Feb 2009*

Exhausted sailors working 98 hour weeks are regularly falling asleep at the helm, turning their ships into "unguided missiles" which could cause a major disaster off the UK coast, an independent watchdog warns.

The Marine Accident Investigation Branch (MAIB) said it was only a matter of time before a "catastrophic accident" took place in UK waters. It called on the Government to take immediate action to ensure that ships were properly manned.

In its latest report, the MAIB cited the example of the cargo vessel ANTARI which ran aground on the Antrim coast in Northern Ireland in June last year. The officer of the watch, who was alone on duty, fell asleep for three hours and was only woken when the 88-metre vessel, carrying 2,360 tons of scrap, had beached itself. Nearly three quarters of the hull was damaged and dented, while the grounding had punctured the bottom of the ship.

The MAIB discovered that the officer had been working six hours on, six hours off for the previous three and a half months. He had fallen asleep in the wheelhouse almost as soon as he had taken over the watch shortly after midnight on a warm June 29 in calm seas.

Stephen Meyer, chief inspector of the MAIB, said the unrelenting shift patterns were "as close to slavery that we have in the UK". He said: "People are working 98 hour weeks, week after week and they do not have a single night's sleep in that time. "They never get more than five hours and the cumulative effect is enormous."

Mr. Meyer said most of the recent accidents where a vessel had gone aground had not cause serious pollution or injury. "But it is only a matter of time until an unmanned ship traveling three hours across a main shipping channel – like an unguided missile – hits an oil tanker or a passenger ship and we are going to have a catastrophic accident."

The MAIB said recommendations it made five years ago to try and prevent such incidents had been largely ignored. During that time, it has investigated nine other groundings, where in six of the cases the officer on the watch fell asleep.

Mr. Meyer called on the Government to put pressure on the International Maritime Organization to review the issue of fatigue and manning on board ships as a matter of urgency. He said the Department of Transport and the Maritime and Coastguard Agency must increase inspections on ships believed to be undermanned to prevent a tragedy in UK waters.

In January 2007, the container ship NAPOLI grounded off the coast of Devon got into trouble because it was being sailed too fast, was overloaded and had a fundamental design flaw.
What About the Future?

Strangely missing from this discussion is the current state of the economy and mention of the future employment prospects for our mariners. The housing “bubble,” distorted gasoline and diesel prices, the end of the market for large, fuel-guzzling cars, the stock market’s nosedive, millions of lost jobs, the health care crisis, and scandals involving billions upon billions of dollars finally brought this great country to its knees. We have lived beyond our means, become lazy and developed bad habits. To say that we were brought down by our own “Greed” as a society is not far off course.

If “Greed” is becoming socially unacceptable, a move to share what employment opportunities remains to our mariners will grow in popularity. If there is less work out there, there will be a greater effort to share the work there is among more mariners. Tours of 21 days on and 7 days off may become 14 and 14. Wages that had risen because of personnel shortages may ease as more personnel become available – if the Coast Guard bungling and ill-advised personnel policies don’t continue to discourage applicants and chase them away. Jobs have not started to vanish wholesale as in other parts of the economy, but if and when they do, there will be serious problems for those who live beyond their means.

Many mariners are “wearing out“ and can no longer count on passing tough new physical exams recently crammed down our throats by the Coast Guard’s new “Medical NVIC.” Remember how you paid your dues by years of standing the two-watch system which is an 84-hour work week – over twice the normal “factory” work week! You can consider that the equivalent of holding two “full-time” jobs. Even a three-watch system is a 56 hour work week – the full-time work of 1½ men. You probably worked hard for all those years on a boat that probably never even had a full crew – one engineer, or maybe none, when two were needed to run a 24-hour boat. If the economy continues to tank, the time will come with pressure to “share the opportunity to work.”

● “Tripping” is fine if that is all you do for a living. Those, however, who work a full time job … and then trip on their time off when the company expects them to rest is where the problem will eventually lie. It is NOT illegal to do so but …if more and more accidents happen by those who trip part time, then the industry will look at this and possibly try to put a stop to it. That, of course, will cut off income to certain mariners who trip while they are supposed to be resting. Right now the Coast Guard investigators look at how much rest you have had in the past 24 to 48 hours. Eventually they will wake up and start looking further back, since sleep deprivation is accumulative. Do you know of any inland river towing companies that do not allow their employees to trip while on their days off? I am just wondering if some are possibly seeing the risk to their company. [83]
CHAPTER 16
DIRECT REQUEST FOR CONGRESSIONAL ACTION

New Legislation

Since the Coast Guard has not established scientifically based hours-of-service regulations, we ask Congress to amend 46 U.S. Code §8104(h) and other statutes if necessary to ensure an effective limit of 12-hours of work in any 24-hour period applicable to all officers and unlicensed mariners serving on every U.S.-flag inspected vessel and provide appropriate statutory penalties.

We request that Congress require that each inspected vessel in 24-hour service be manned by at least three (3) fully qualified, credentialed officers regardless of the length of the voyage.

We request that Congress require that each inspected vessel in 24-hour service be manned by two complete crews that are capable of performing their duties without disturbing crewmembers who are off duty except in a bona fide emergency that could not have been anticipated through proper planning.

We respectfully ask that Congress address the issue of requiring a trained cook to manage food service on each inspected vessel in 24-hour service.

Areas of Oversight

USCG Authorization Act of 2010, Section 607 – Logbooks. The Act made important changes in requiring an official logbook be maintained on each inspected vessel including towing vessels. Section 607 amended 46 U.S. Code §11304 to require logging of (1) the time when each seaman and each officer assumed or relieved the watch. (2) the number of hours in service to the vessels of each seaman and each officer. (3) an account of each accident, illness, and injury that occurs during each watch. We are concerned about a lack of enforcement because, in the past 40 years, we have never seen any expectation or concern from the Marine Safety Directorate that mariners maintain accurate records in logbooks on limited-tonnage vessels.

We contend that there has been a severe underreporting of personal injuries suffered by our mariners for many years. We are concerned that the Inspector General in the Department of Homeland Security did not effectively follow up on this issue that we first reported in 2007. We urge Congress to request the DHS Inspector General to investigate the underreporting of personal injuries – especially those of limited-tonnage mariners.

Examine why the Coast Guard internally denigrated its scientific research on hours-of-service and continues to allow watch schedules such as 6 hours on duty followed by 6 hours off duty (6&6) that are scientifically insupportable.

Examine our allegations of the longstanding lack of formal safety and vocational training for limited tonnage engineering personnel on OSVs, towing and small passenger vessels.

Examine our allegation that the DHS OIG no longer has employees with sufficient technical background to audit Coast Guard Marine Safety programs such as "Investigations." Added to this weakness is the fact that the Coast Guard does not have its own Inspector General.