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## GCMA REPORT #R-433

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### TOWING VESSEL FATALITIES: GCMA COVERAGE OF TWO ACCIDENT REPORTS ON TSAC SEPTEMBER 2006 AGENDA

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### A TOWING INDUSTRY TRAGEDY: DEATH OF A "GREEN" DECKHAND

*[<sup>(1)</sup>Ed Note: GCMA redacted the names of individuals directly involved in this terrible tragedy since responsibility for the death of deckhand Joseph Hulen was that of company management and not the crewmembers. The lessons the crewmembers learned from this tragedy were learned "first hand." If mistakes were made, their burden will be to live with them. However, we believe our mariners and others can learn from the attorneys and forensic experts who commented on this accident and to whom we are indebted as well as to Mr. and Mrs. William Hulen who contacted our Association.]*

At a recent Towing Safety Advisory Committee (TSAC) licensing Work Group meeting in Houston, there were suggestions that requiring new deckhands to "waste" a year and a half serving on deck before they became eligible to train for duty in the pilothouse was "excessive" and that some time period considerably shorter should be considered.

Captain David Whitehurst, representing GCMA firmly rejected any thought that time spent learning to be the best deckhand possible was a "waste of time." He rejected any thought of reducing time in service based on his more than 30-years experience on inland towing vessels.

#### Joe Hulen's Hopes and Dreams

The case under examination presents the needless and preventable death of a young man seeking a maritime career.

The immediate and obvious cause of death was a fall overboard between two vessels during an equipment transfer. The Coast Guard investigated the accident and prepared its report, a copy of which GCMA received under the Freedom of Information Act.

This case arises from the death of Joseph Hulen, who was working as a deckhand for American Commercial Barge Lines (ACBL) on its towboat the M/V WALLY ROLLER when he died in an accident on November 2, 2002. Joe was only eighteen years old at the time of his death and is survived by his mother Lisa and father Bill and a younger brother. The same company, ACBL employed Bill for a number of years as a Chief Engineer on a different vessel. Joe, who had just graduated from High School, hoped to follow in his father's footsteps as an engineer. His Mom and Dad told GCMA how much he loved working on the towboats and that after only a few trips he announced to them that towboating was a career he wanted to excel in. At the time of his death, Joe had worked for ACBL for only a few months as a deckhand trainee.

#### An Outline of the Accident

The incident occurred on the Ohio River, between the states of Illinois and Kentucky. The towboat and its crew had "touched up," but did not tie off to a fleet of 15 barges.

Just before the accident, Joe was standing on the towboat as it approached a barge on which the other deckhand, <sup>(1)</sup> was standing. As Joe was attempting to pass a 150-foot coiled lock line from the starboard bow of the boat to the other deckhand on the barge, the towboat slowly drifted away from the barge at the stern allowing a gap to form between it and the barge.

After a failed initial attempt to transfer the line to the barge, it got tangled up between the crewmembers and Joe fell into the river. Joe struggled to escape the closing gap between the boat and barge but, due to his body weight and the weight of his equipment, he was unsuccessful. Attempts by the other deckhand to pull him onto the barge were also unsuccessful. In his attempt to help Joe out of the water, the other deckhand failed to alert the Master of the towboat of his plight by radio.

The Master apparently heard the "man overboard" cries and started to maneuver the boat back to the barge because he could not see the deck crew. In the meanwhile, other crewmembers were alerted to the emergency. At least one of them saw the scene and went back inside the towboat to alert the operator to the situation and also ordered the cook to awake the sleeping crewmembers for assistance. Before actual additional rescue assistance was rendered, the operator allowed the boat to swing back toward the barge, slowly pinning and crushing Joe against the barge while he was being held by the other deckhand.

Joe did not sink or drown, rather, he struggled to escape before and after the boat trapped his body against the barge. Eventually, the operator swung the boat away and Joe was pulled aboard the vessel and first aid started. He was transferred across the river to the Illinois shore where he was given further aid by EMT and transported to the hospital, but was pronounced dead upon arrival. At Joe's funeral, the company tried to cover up its responsibility by suggesting to the family that Joe's death was "just an accident."

## The Coast Guard Investigation and Report

The Coast Guard reached three conclusions:

- 1) That a briefing and discussion should have been held between the deckhand and the Captain so they could possibly discuss dangerous situations and ways to avoid tragedy.
- 2) That ACBL failed to provide adequate communication between deck crew and the boat operator. The operator did not have visual contact with the crew and the hand-held radios were "useless" since the crew's work did not allow them a free hand to physically key the microphone.
- 3) That ACBL failed to have a safety policy requiring that its boat be secured to barges before attempting line transfers. If the boat and barge had been tied off instead of freefloating, there would not have been a gap in between for Joe Hulen to fall into.

Bill Hulen sadly pointed to these three sensible conclusions. He pointed out that they were advisory in nature and that the Coast Guard showed no further interest in taking steps to require ACBL to change existing practices. Despite these obvious safety violations, the Coast Guard did not fine ACBL.

GCMA often requests USCG accident reports under the Freedom of Information Act. While these reports may be useful for a number of reasons, our mariners must understand that 46 U.S. Code §6308 states in part that "...no part of a report of a marine casualty investigation ... including findings of fact, opinions, recommendations, deliberations, or conclusions, shall be admissible as evidence or subject to discovery in any civil...proceedings. In other words, the Coast Guard can investigate the accident for its own purposes – but mariners or other parties at interest will have to conduct their own investigations and hire attorneys and take the case to court if they want to learn facts and causes of injuries and deaths. It is easy to understand why many mariners view the accident investigation process as a sham – especially the required accident report form CG-2692 that mocks the reporting process.

GCMA often points to a report commissioned by the USCG Research and Development Center in 1994 titled U.S. Coast Guard Marine Casualty Investigation and Reporting: Analysis and Recommendations for Improvement that really gets to the heart of the problem about accident investigations.<sup>(1)</sup> [<sup>(1)</sup>*CG-D-13-95, GCMA File #A-634A that appears on the GCMA website as GCMA Report #R-429-A (Series) U.S. Coast Guard Investigations.*]

### Legal Challenges to Proving the Case

Numerous complex legal hurdles faced the Hulens in their quest for the truth. Shortly after telling the Hulens their son's death was "just an accident" and then suggesting it was not at fault, ACBL and its lawyers actually filed the first legal suit under an ancient maritime doctrine. It sought to exonerate or excuse the corporation from any liability for compensatory damages it had to the Hulens whatsoever or, alternatively, to limit any liability it had to the mere value of its towboat.

The Hulens were served with notice of ACBL's lawsuit just days after the funeral and were told that if they did not file a legal claim within a short time period, they would be barred.

The Hulens were referred to St. Louis Maritime Attorney Nelson G. Wolff who had successfully represented the family of another ACBL employee who suffered a work-related death.<sup>(1)</sup> [<sup>(1)</sup>*Refer to GCMA Report #R-412, Towboat Engineer's Death Points to Need for Changes in the Law.*]

Wolff successfully argued that ACBL should not be allowed to be free of liability or to limit the value of human life to the value of the vessel and that the Hulens' were entitled to a trial by jury. The court eventually dismissed ACBL's case.

While this case was being contested, ACBL filed bankruptcy and again attempted to have the Hulens' case dismissed. Only after months of intense legal battles were the Hulens allowed to pursue their claim against ACBL to prove its responsibilities for his death.

Under the Jones Act, an employer is liable for compensatory damages caused in whole or in part by its negligence. A single claim inures to the surviving parents of an employee and the employee's estate, if the employee has no spouse or children. In this case, Joe was survived by both parents, Bill and Lisa Hulen, with whom he was living at the time of his death.

Under the law, they are entitled to compensation for lost economic support that they reasonably expected to receive, loss of counsel, support, guidance and for the conscious pain, suffering, and emotional distress experienced by Joe before he died. No compensation is allowed for grief and bereavement.

Joe had, in the past, and was expected in the future to have, provided some amount of economic support, emotional counseling, and guidance to his parents. The most significant component of damages available under the law in this case, however, was the conscious pain, suffering, and distress he experienced until the time of his death.

### Unimaginable Crushing Pain

GCMA Report #R-351, How Safe Is The Towing Industry? is a reprint of a USCG document that provides useful statistics on the dangers inherent in the towing industry as measured by industry fatalities. This document contains statistics that should jolt many "green" deckhands who consider a career in the towing industry. So, too, should the AWO/USCG Joint Quality Action Team report on deck crew safety in the inland towing industry released on Dec 30, 1996<sup>(1)</sup> But, these reports are just statistics. Here is a sample of the pain resulting from the most minor misstep. [<sup>(1)</sup>*USCG, G-MOA-1. Capt. Scott Cooper, USCG GCMA File A-424.*]

The incident occurred at 10:30 a.m. and Joe was pronounced dead at 12:13. The autopsy report confirms that Joe's chest and abdomen were crushed with hemorrhages of the forehead, eyes and face, bilateral multiple rib fractures and fracture dislocation of his pelvis, lacerations of the liver, small intestine and transverse colon. His scrotum was distended and accumulated fluid consistent with acute trauma was noted. He had swelling and congestion in his lungs, consistent with a lost struggle to breathe and damage to the lungs. The cause of death was held to be asphyxiation

due to thoraco-abdominal compression due to blunt trauma to the chest, abdomen and pelvis. In layman's terms, his body was crushed such that he was unable to inhale/exhale while pinned between the vessels. The Coroner concluded that Joe did not suffer any direct trauma to the head or face and he was conscious during the crushing process.

According to the various accounts of the incident, the period of Joe's conscious pain and suffering ranged from a few seconds to a few minutes. Undoubtedly, the fatal injuries were exquisitely painful and Joe experienced psychological distress from the moment he was knocked from his feet until his death, with a conscious awareness, over what must have seemed like an eternity to him, that he was in grave danger and that severe injury or death was likely. An expert in pre-death terror opined that Joe would have experienced pre-death terror over a period as short as three seconds, including a "life review process," where, literally, his life and family would flash before his eyes. This distress and pain/suffering represented the most significant element of damages in this case.

### **Anguish of Joe's Family**

Lisa Hulen first heard of GCMA almost two years after the accident. In her call, that best can be described as distraught, she and her husband simply could not understand why nobody appeared interested or concerned about what happened to their oldest son. It was obvious that she and her husband Bill needed the services of a good admiralty lawyer.

At that point, we determined that they had hired an attorney, Nelson G. Wolff, Esq. of Schlichter, Bogard & Denton of St. Louis, whose success in handling difficult cases was chronicled by GCMA on several previous occasions. The concern both Lisa and Bill spoke about was not collecting money for their son's death. Their concern from day one was to discover the cause of their son's death in order to raise awareness of how both the industry and the Coast Guard were treating Joe's death as if it were "business as usual." Bill had a unique view from his inside position as an Engineer for the same company that their attitude was "deckhands are expendable commodities."

How long do you grieve for a lost son? The company answered that question rather bluntly by calling him a few weeks later suggesting that it was time he thought about going to work again – they needed his services. Instead, Bill quit both the job and the industry and now works ashore at a construction job!

### **Grieving for Joe Was Only Half of Bill's Burden**

A significant precursor to Joe Hulen's death occurred on August 28, 2002, just two months before Joe was killed aboard ACBL's M/V WALLY ROLLER. At the time, Engineer Bill Hulen, then serving on ACBL's M/V CHARLES DITMAR, Jr., when deckhand Charles Hamby drowned after falling from the towboat's skiff while making crew change near Terrene Landing, Lower Mississippi River Mile 592.1.<sup>(7)</sup> Chad Hamby was only 26 years old and had worked on the river just over a year. [<sup>(1)</sup>GCMA accident file #M-550-A.]

Bill was very upset about the accident and caustic about the length to which the company went to deny any responsibility for the accident. Bill believed that Chad Hamby never was trained properly to operate the towboat's skiff. After watching the way that the company lawyers

handled the investigation following the accident, he seriously began to question whether his son, Joe, was wise to stick to his plans of making a career in the towing industry. It is this nagging doubt and the thought that he might have been able to change future events that haunts him to this day. This accident, that was so up-close and personal, coupled with the loss of their own son is what motivates Bill and Lisa Hulen to work to improve working conditions on towing vessels. Husband and wife attended the U.S. Coast Guard's public meeting on towing vessel inspection held late and spoke briefly about the accident and to point out that ACBL had, in a short period of time, lost three "green" deckhands to fatal accidents and had not taken responsibility for any of these deaths! This, and not the desire to reap a huge posthumous cash award, motivated the Hulens to press forward in a lawsuit against ACBL and set the tone for ACBL finally to accept responsibility for their actions.

As a direct result of GCMA's discussion of the Chad Hamby accident with Bill Hulen, Captain Larry P. Gwin and Captain David C. Whitehurst on our Board of Directors helped to prepare GCMA Recommendation #77 in GCMA Report #R-276. This is a detailed proposal that seeks to require "Rescue Boat & Training" for all crewmembers who serve on inland towing vessels because knowledge of small boats has been taken for granted for many years. In fact, this is the second fatality we reviewed in detail in the past year.<sup>(1)</sup> We furnished this significant recommendation to the Coast Guard for consideration in the Towing Vessel Inspection rulemaking package. Unfortunately, to date, the TSAC Working Group composed mostly of AWO member companies appears to have ignored both the problem and GCMA's proposed solution. [<sup>(1)</sup>Refer to GCMA file #M-547, USCG MISLE Activity #1732894. The story appears in GCMA Newsletter #30, May 2005, pages 9-13.]

### **Company Blames Joe for His Own Death**

Facing a possible lawsuit, the ACBL lawyers closed ranks and asserted that Joe Hulen had negligently caused his own death. Interestingly, they apparently failed to inform their own Director of Safety and Training of this who, stated in a Deposition: "No, I wasn't aware of that part of it, no."<sup>(1)</sup> "Given the facts as – that I have reviewed them, I don't know if young Joe really did do anything wrong." [<sup>(1)</sup>Andrew Cannava, Deposition, Oct. 27, 2004, p.49, 50.]

Understanding there are different viewpoints, here is an account of the accident as presented by Mr. Cannava, ACBL's Director of Training, in his deposition:<sup>(1)</sup> [<sup>(1)</sup>Transcript, pgs. 54-58.]

"Given what I've read, and given what our investigation has shown, we were building a 15-barge coal tow on the Ohio River on the Kentucky shore across the river from a loading facility on the Illinois shore, at approximate location of Shawneetown, Illinois.

"It was approximately 10:00 o'clock in the morning and on Eastern Time, and the WALLY ROLLER was just finishing up the tow, putting the last barges in tow shifting their lines around, preparing to face up to depart the area.

"We were moving a lock line from one end of a barge in mid tow up to the break coupling in the tow, by the boat, because we – the Captain felt, and the way we train is that if we can move the equipment in the easiest way possible, that is the route we are to take. That is the decision making

process that the crew undertakes, and this time they chose, instead of carrying a line, the one single lock line they were going to move it on the head of the boat up from one end of the barge to the other.

“Once they had loaded it onto the boat, the head of the WALLY ROLLER on the starboard head, one deckhand walked up the tow and...Joe Hulén, the Probationary Deckhand, stayed on the boat and up to the next coupling.

“By the time the boat got up to the next coupling, the other deckhand that was on the tow, C C C had met the boat right there at the coupling, and they were in the process of offloading a line, one line, a break-coupling line, onto the tow.

“Mr. Hulén had picked up the line, and I think it's a little unclear as to whether it was the whole line or part of the head of the WALLY ROLLER gapped out away from the tow, and that was done just at the same time that Joe was giving it a second try to pass the line over to (the other deckhand), and when C C C saw that the boat was gapping out away from the tow, he had reached over to push Joe back, because he saw his motion – he was in motion to give the line over to him. C C C tried to push him back. At the same time Joe was trying to drop the line, but as he twisted and tried to drop the line, he tripped on something. The report says he tripped on something, what, we don't know, and the line went on the deck, and he went down between the boat and the tow...

“...as the boat gapped out, just a little bit more, C C C had jumped back a little bit and got down onto the deck, stepping over a deck fitting, and laid down on the deck and reached over the side of the tow just a few feet back just from where Joe had fallen in; and he reached into the water and grabbed Joe by the collar, by his shirt, or by the life jacket strap on his life jacket, and pulled him back up and tried to swing him up. And all the while he had one hand on Joe, and the other hand on the coaming of the barge behind him as he was laying down, or on something behind him to try to stabilize him, so he wouldn't go in the river, too.

“Joe tried, along with C C C, he knew C C C had hold of him, and he was trying to swing his leg up onto the deck of the barge, and from what I understand, he tried it a couple of times, and he couldn't get ... between C C C and Joe they couldn't get him out of the water, pull him up over the side of the barge, and at the same time C C C was hollering that we had a man overboard. The engineer had heard him. He came out, and he ran back inside, he being the engineer, ran back inside to call up to the pilothouse to say that they had a man in the river, and to try to get him to bring the boat back out, because he saw the boat was coming in on the bow.

“And they didn't have him far enough out of the water, or far enough, and the boat came in and landed on Joe, crushing him between the head of the boat and the tow. C C C still had hold of him, and by that time [the mate] had arrived at the spot at the break coupling, and [the mate] helped C C C get Joe out of the water and back up onto the tow. They put Joe in a Stokes basket, a litter, put him on the (WALLY) ROLLER and, at the same time, they had called over to the paramedics over in Illinois, and they had tried to go across the river as fast as they could to get him to some medical help.

### The Other Side of the Story

ACBL was the defendant in the lawsuit titled Estate of Joseph Hulén vs American Commercial Barge Line.

Although Mr. Andrew Cannava, the company Director of Safety and Training, had full access to company records he had not been at the accident scene. Only the boat crew was there and only (the deckhand, the mate), and the Engineer saw the event occur. The Captain from his position in the pilothouse could not see the events taking place on the deck beneath him and had no posted lookout in place to inform him of the events that were unfolding.

Bill and Lisa Hulén's attorney had to reconstruct the evidence after the fact through “discovery” and, to do so, had to rely on the same evidence the company used, although with an eye toward identifying company fault. In preparing his case for trial, their attorney, Nelson G. Wolff, Esq., sought help from an extremely thorough and well qualified forensic team affiliated with the American Admiralty Bureau operating in strict conformance with the Code of Professional and Ethical Conduct of the National Forensic Center.

The forensic team made a number of significant points that we believe are significant for our mariners. Faced with these significant points, which provided substantial evidence of ACBL's unsafe practices and policies, it had to admit liability and settle out of court on the eve of the trial for a substantial cash settlement. As a part of the settlement, there are no limitations on disclosure. We believe that each of these points made by the forensic experts, above and beyond the conclusions reached in the Coast Guard accident report, have merit and present them below: [*Ed. Note: Our edited, abbreviated, and annotated excerpts appears below.*]

- **Safe workplace.** Section (654) of the OSHA Act states in part that “Each employer...shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or likely to cause death or serious physical harm to his employees...” The company allowed certain “recognized hazards” (cited below) to exist on their workboats. Control and reduction of these recognized hazards was the duty of the owners and ship's officers rather than an apprentice deckhand just learning the trade.
- **Trainee or “probationary” deckhand.** Joe Hulén (who was only on his third trip) was considered (and paid) as a trainee. He was paired with a “more experienced” deckhand C C C (who was only on his fifth trip).
- **No USCG certification.** Since the Coast Guard does not require certificated and tested “Able Seamen” on western rivers towboats, there is no “third-party” competency certification of “deckhands.” The company alone determines and assumes responsibility for rating an “experienced” or “supervisory capable” deckhand.
- **Placement of barge in tow.** The Captain allowed the box barge (i.e., the barge involved in the accident) to be returned to and inserted in the tow “backwards” with its lock line on the wrong end of the tow. As a result, this bulky line, weighing 100 lbs., had to be moved 200 feet to the other end of the barge. It was during this move that the fatal accident occurred.
- **Failed to secure towboat to barge before passing the**

line. This simple action would have taken less than a minute. This allowed the towboat to drift away from the barge as Joe attempted to pass 100 lbs. of line across the gap. The load was too heavy and the gap shouldn't have been there. This was an unsafe and unnecessary hazard.

- **Alternate methods of line-handling were available** but were not used. The entire evolution was not adequately supervised by the mate, C C , who was in the general area at the time of the accident.
- **Deckhands' errors.** Deckhand C C C did not keep a careful lookout for dangerous conditions and failed to notify the Captain by radio that the towboat was slowly drifting away from the barge. Although there was a delay while Joe made a second attempt to pass a smaller length of line across the gap, C C C did not keep a lookout for the gap or tell the captain of this delay.
- **Supervisory error.** Although C C C testified that Joe may have turned his back to the water while preparing to pass the line across the gap, he did not testify that he ever admonished Joe (his trainee) that this was an "unsafe practice."
- **Violated company "man overboard" procedure.** Page 60 of ACBL's deckhand training guide called for C C C to contact the pilothouse immediately by radio twice to alert the Captain of the situation. Only then should he have attempted rescuing Joe Hulen. As soon as he dropped to the deck with one hand holding the barge coaming and one hand outstretched to Joe, he deprived himself of the ability to use the "push-to-talk" button on his hand-held radio. Given his deposition testimony under oath, there would have been ample time for the Captain to control the boat to protect Joe in the water.
- **Shouting and yelling was futile.** C C C 's attempts to alert the Captain or others by yelling were inadequate. This may have been a result of inadequate and ineffective training by ACBL and panic that resulted from the situation and training inadequacy. Common sense and minimal experience on a towboat this size should demonstrate that the pilothouse can be a noisy place with all sounds from radios and other sources competing for attention.
- **Inadequate supervision by the mate.** C C failed to conduct any job safety briefing as set forth in ACBL's "Job Briefing" guide.
- **Mate was not present as a lookout for the line transfer task.** The line transfer was taking place in a blind spot relative to the pilothouse. Since C C C and Joe Hulen were both fully engaged in passing this bulky line from boat to barge, the mate should have been on the spot to coordinate with the Captain.
- **The Captain failed to maintain control of the boat.** He did not keep the boat against the barge until the line transfer was safely completed.

- **The Captain allowed the transfer to take place in a blind spot where he could not observe the activity.** He did not call for the mate to serve as his lookout during the transfer. He failed to question the delay in making a transfer that he later testified should only have taken 1 to 2 seconds.
- **The Captain's response to finally being alerted to an unusual situation was unsafe and improper.** He testified in his deposition that one minute or so before he received an intercom alert from his Chief Engineer, he heard C C C yelling that indicated something was wrong. At that point, he should have communicated with the crew to assess the situation before bringing the boat back against the barge. Instead, he reacted by closing the gap which is an illogical and inexplicable reaction for an experienced operator to make. *[Ed. Note: This evaluation is tempered by subsequent comments recited below.]*
- **ACBL improperly allowed C C C to supervise and train Joe Hulen.** C C C only had served as a deckhand for 5 to six trips according to the Safety and Training Director's testimony. His training should have been left to a more experienced deckhand.
- **ACBL is responsible for work practices that likely allowed fatigue to contribute to the incident.** The Captain had been allowed to work on the boat for almost 60 consecutive days while C C C had worked over 30 consecutive days. Although licensed officers are limited by law to 12-hour workdays, no such limitations apply to either deckhands like C C C or non-navigating mates like C C . In fact, the AWO's Responsible Carrier Program has institutionalized the industry's use of a 15-hour day in spite of years of protest from GCMA and other mariner organizations. In fact, in 2000 GCMA published the book Mariners Speak Out on Violation of the 12-Hour Work Day containing over 50 letters from mariners exposing abuses of work hours. GCMA distributed several hundred copies to the Coast Guard, Congress, and to national and international labor organizations.
- **Joe Hulen was assigned to the "call watch" at the time of the accident.** This meant that his workday was subject to irregular breaks instead of the standard routine of 6 hours on duty followed by 6 hours off duty around the clock. The call watch, in addition to the 15-hour workday in this industry is a real travesty whose scope was revealed to the public in GCMA Report #R-375, Crew Endurance: The Call-Watch Cover-up and in GCMA Report # R-401, Crew Endurance and the Towing Vessel Engineer – A Direct Appeal to Congress. We hope that Congress will respond to these appeals to remedy abuses as pervasive in the 21<sup>st</sup> century as those revealed by Richard Henry Dana in Two Years Before the Mast in the 19<sup>th</sup> century.
- **The "call watch" abuse is a result of improper manning.** If there is a "two-watch" system, there should be a full crew to stand each watch. It is clear that this simple maneuver that turned deadly required three men

on deck under all the circumstances of that maneuver. However, the company allowed one man, Deckhand Trainee Joe Hulen to be used on both watches – the real meaning of the “call watch.” The company thereby saved the wages of one deckhand by using their most junior, most low-paid, and most vulnerable “green” deckhand on both the “front watch” and the “back watch.” While this provides more training for a new man, it also expects more in the way of alertness and stamina. Deckhand trainees, by whatever name they are known, should be supernumeraries and not treated as “cannon fodder” to be awarded a small pay raise if they survive the experience.

- **Clearer heads might prevail if everybody involved had not been obviously fatigued.** Fatigue appeared to be a contributing factor in this accident and a growing menace to the public as reduced crew size is imposed on an already-stressed two-watch system. Any employer is free to grant crews on towing vessels an 8-hour three-watch system. Yet, there is only permissive authority in the regulations to impose the two-watch system. This is done to maximize profits by reducing overhead by eliminating about four jobs aboard a typical line-haul towboat. The major savings extracted from the system today are the elimination of a second Pilot, one of the highest-paid crewmembers. Today, there has been an overall reduction in crew size so that, on average, boats carry about one to four less crewmen than vessels under the two-watch system in the past. Yet, there has been no real change in the technology of this type of towing that would eliminate the tasking previously performed by the missing crewmembers. To the extent that fatigue contributed to this accident, company management practices imposed it, Joe Hulen died for it, and Bill Hulen had the guts to stand up and oppose it.

### **The Expert’s Summary**

Maritime expert, the late Captain Jay Disler, developed the following professional opinions:

The case under examination presents the needless and preventable death of a young man seeking a maritime career. The immediate and obvious cause of death was a fall overboard between two moving vessels. But, as demonstrated in the body of this report this fall was not a simple act of carelessness or inattention.

Joe Hulen died because he was overburdened by an awkward load, his superiors were inattentive to the evolving hazard forming next to him as a gap between the vessels widened.

His superiors deviated from standard procedure and it is highly likely that these deviations and inattentions were at least in part the result of fatigue. Fatigue in this case was induced by work practices imposed by management. The work method chosen that failed to wait for a secured closure of the two vessels responded to economic pressures on operational tempo that was described in the body of this report and an admitted absence of relevant management policy.

On its face, this is a simple fall overboard, one man dead with little relationship to other cases or impact on society. However as demonstrated within the body of this report, this case is a tragic example of a larger safety problem; rampant

in the inland towing industry. This problem manifests itself in crew injuries, collisions, and bridge allisions, often with large numbers of deaths

Without the introduction of new technologies, it is unsafe to attempt serious reductions in deadhead time while simultaneously reducing crew size, increasing crew working hours, and increasing tow size. All of these cost-saving and profit enhancement measures taken without consideration of this effect on each other have, and continue, to drastically diminish safety margins on the inland navigational system.

The new technologies that have been introduced have not decreased the need for labor. Automatic plotting radar, GPS, and bridge-to-bridge radios have only increased the tasking in the pilothouse, yet the pilothouse is still manned by only one licensed officer at a time.

We still build tows with the same tools and rigging as 50 years ago, but now we do it with half the workers while the barges are growing larger. Labor unions in this field are virtually extinct. The major regulator, the U.S. Coast Guard is distracted by a growing list of high priority homeland security missions.

The courts are the only place where this trend can now be documented, described, and brought to the attention of the industry, the last power with any real ability to level the playing field in favor of increased safety that means a retreat from some of the more onerous crew reductions, and operational practices.

Fortunately, as a result of the hard-fought litigation against ACBL, Bill Hulen’s attorney and the maritime expert, the complete picture of responsibility could be revealed and corporate accountability be compelled. The death of Joseph Hulen was not an isolated event, but an exemplary event that warrants serious attention, analysis, and publication of the results.

### **A Message to Mariners From Nelson G. Wolff, Esq.**

As Capt. Disler mentioned in his report, “the courts are the only place where this trend [against safety in the industry] can be brought to the attention of the industry, the last power with any real ability to level the playing field....”

Unfortunately, meaningful access to the courts and the opportunity to achieve the potential for reform depends on injured workers finding legal counsel who is experienced with the nuances and challenges of the complex law that governs mariners. The only thing more unfortunate than the injury or death of a maritime worker is the failure to obtain compensation and lost opportunity to send a message to the industry in a language that it can understand – money.

I appreciate the opportunity you have afforded me through your media to communicate these results in hopes that other workers will not be deprived of their right to compensation and that industry safety can be improved through lessons learned through hard-ball litigation and court judgments. Hopefully, it will result in fewer such deaths/injuries, whether be by increased, effective regulation or through cost management at the company level.

**TOWING INDUSTRY LEAVES  
SHATTERED LIVES AND DEVASTATED  
FAMILIES IN ITS WAKE**

**The Industry Advised the Coast Guard:** “I think we do a heck of a job. We pay good wages. We feed good food. My door is open. We have good retirement. We have good health insurance. And, I’m one of the little guys and I’m just here to tell you that don’t try to fix something that ain’t broke.” [Source: Transcript, p.27, USCG public hearing on towing vessel inspection, St. Louis, Mo, February 17, 2005]

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**A parent speaks in memory of his son and other deckhands:** [Source: Transcript, pgs. 62-64, same meeting.]

**MR. WILLIAM HULEN:** My name is William Hulen, and I will be the voice of three of our men that lost their lives. **Chad Hambey**, October 2002; **Joe Hulen**, November 2, 2002 – that was my son – **Matthew Miller**, May 2003. All employed by one company, which I will not mention, but we all know who they are.

This is a petition to support legislation concerning the U.S. Coast Guard’s investigation on all death-related incidents on all federal and inland waterways. Currently no legislation exists to mandate that the Coast Guard enforce recommendations made as a result of these investigations. These investigations take many man-hours and your tax money, and action should be taken on the recommendations that come out of them.

Companies that fail to follow the Coast Guard recommendations should have to answer for this. Without proper enforcement, these companies have no incentive to follow these recommendations. We all have only one life.

Back to the incident that happened to my son. On November 2, 2002 at 9:30 a.m. on the motor vessel Wally Roller, two deck hands were passing a lock line from the bow of the towboat to the barge when one of the deckhands, Joseph Hulen, lost his footing and fell into the water between the boat and barge, resulting in his death.

The Coast Guard investigated this for ten months; District 8 ... clearly state(d) that any (of the) three ... recommendations that they have given would have made this tragedy avoidable and make it safer for the towing industry. They also said that if it was passed as law, it could or would save a life, if enforced.

The three recommendations (were)

- 1) That they have a briefing and discussion to be done between the deckhand and the captain, they could possibly discuss dangerous situations and ways to avoid tragedy.
- 2) By having hands-free radios to talk to the captain, especially when their hands are full and they are in trouble, and a third person out there to communicate with the captain.
- 3) If the boat and barge had been tied off instead of free-floating there would not have been a gap in between for Joe Hulen to fall into.

The Coast Guard also recommends that the towing companies re-evaluate the company policy regarding this type of evolution, and make any changes to improve the safety of their personnel. Also, their last recommendation was that this has to be sent throughout the towing industry to all companies, and used as an example to prevent future accidents of this type.

As of this day, the company has yet to assume

accountability for any of these three deaths. These were all three green deckhands, and they all took place in less than eight months apart. Thank you.

### GCMA’s Position

On March 25, 2004 in response to our discussions with Mr. and Mrs. Hulen, GCMA modified GCMA Report #R-276 (Inspection of Towing Vessels) by adding a new Item #80. We submitted this report to Coast Guard Docket #USCG-2004-19977 for consideration as part of the towing vessel inspection initiative.

**80. Require Task Briefing Before Towing.**<sup>(1)</sup> Towing is a unique and dangerous occupation as confirmed in a Coast Guard (G-MVI) report titled Towing Vessel Industry Personnel Exposure Data dated May 12, 1994.<sup>(2)</sup> [<sup>(1)</sup> Refer to MISLE Activity #1699939, MSO Louisville. <sup>(2)</sup> Available as GCMA Report #R-351]

Before engaging in any towing evolution (including normal fleet work), a briefing must take place between the Master, Mate, or Pilot (hereinafter, “officer”) in charge of the towing vessel’s navigation watch. That briefing must discuss in detail the planned evolution that will take place including but not limited to:

- The role of each person involved in the task.
- The lines, wires, fittings, tools, and heaving lines that will be used, their condition, suitability and availability.
- Any vessel maneuvering that is anticipated to take place.
- Any reasonable deviations from the plan that may take place if plans change after the vessel is committed to the evolution. (aka “Plan B”)
- Safety procedures and positions the seamen must take to avoid all anticipated hazards.
- Require an instantaneous means of communication between the seamen on deck and the officer at the vessel’s control station.
- When a handheld radio is used to communicate, the radio must provide for hands-free operation since both of the seaman’s hands may be engaged in line-handling.
- If a loudhailer or public address system is used for communications, it must be fitted with a talkback system usable from all deck locations on the boat normally utilized by the deck crew (e.g., davels, capstans, towing winches).
- If hand signals are used, the exact nature and meaning of each hand signal must be specified.
- Deck and pilothouse speakers must produce clear and audible sounds and must be energized during the evolution.
- The officer in charge must understand that his first responsibility is to monitor his crewmembers whom are at risk during the entire evolution.
- If the officer is unable to manage distractions, he must call off the evolution and have his deck crew stand down until such time as the evolution can proceed safely.
- If a new (“green”) deckhand is assigned to the vessel, the officer must determine the extent of his training (if any). The officer then must take the time to assess this deckhand’s knowledge of the vessel, his aptitude for the tasks he must perform, his understanding of the dangers involved, and the individual’s capability to serve as a useful crewmember before placing him at risk.

- If an officer anticipates a problem using a “green” deckhand he should not expose him to danger without first bringing the matter to the attention of the office and logging the resolution and have his deckhand sign the entry.
- Any task that cannot be performed safely by any of the persons assigned to perform it or with the equipment available must not be attempted. In making this determination, a towing vessel officer must consider the physical condition of his crewmembers including fatigue factors.
- On inland towing vessels, officers must ensure that all safety chains are in place to guard against a man overboard situation. Safety chains are lowered only with the knowledge and consent of the officer in charge. In general, safety chains should come down only when the towing vessel is tied to its tow.
- Heavy items must not be passed from boat to boat or boat to barge unless the two vessels firmly secured to each other and there is no appreciable gap between them.
- Consideration should be given to using a ramp between the 2<sup>nd</sup> deck of a towboat (“Texas Deck”) and the deck of an empty barge firmly secured alongside to facilitate moving gear between boat and barge.
- Before undertaking any task, the officer must be certain that all participants have donned any/all personal protective gear properly and that suitable lifesaving devices and personnel are available and immediately on hand to retrieve and recover a man overboard.
- The licensed officer must have the authority to stop any towing evolution that cannot be performed safely. This “responsibility” is detailed in Rule 2 of the Navigation Rules.
- There are times such as during high water or in bad weather where circumstances do not permit an evolution to take place with safety. The officer must be able to exercise his prerogative in those cases to avoid the possibility of an accident that would put his crew at risk.

**M/V A. V. KASTNER ACCIDENT:  
ELK RIVER COLLISION  
DROWNS FOUR MARINERS**

The Chesapeake and Delaware Canal is a sea-level waterway that extends from the Delaware River at Reedy Point, DE, to Back Creek at Chesapeake City, MD, thence down Back Creek to Elk River and the northern end of Chesapeake Bay. The canal provides a protected inland route between Delaware Bay on the North to the Virginia Capes several hundred miles to the south. The canal is maintained by the U.S. Army Corps of Engineers with a project depth of 35 feet. Elk River is located at the southern entrance to the C&D Canal. [Source: NOS Coast Pilot #3.]

On February 25, 2002, at approximately 0644 local time, the 520-foot long bulk carrier M/V A.V. KASTNER, collided with a multiple vessel flotilla of dredging equipment being pulled by the uninspected towing vessel BUCHANAN 14 and pushed by the M/V SWIFT. The collision occurred in the vicinity of buoys G15<sup>(1)</sup> and R16<sup>(1)</sup> on the Elk River off Town Point, MD, near the southern entrance of the C&D Canal. Following the collision, the tug SWIFT capsized resulting in the death of four of the eight

crewmen on board at the time.

The estimated property damage was \$500,000 and the C&D Canal was closed for one week pending the salvage of the tug and barges. [(1)G = green; R = red as refers to the color of the navigation marks. Source: USCG Report, Misle Activity #1493713; Misle Case #84843; GCMA File #M-269]

**Statement of the Chief Mate of the  
M/V A.V. KASTNER**

I am Chief Mate of M/V "A.V. KASTNER." I hold a Canadian Home Trade Master, First Mate Foreign Going - no limitation Certificate of Competency issued on 7 October 1996. I had previously held a Chief Mate certificate of Competency issued by the Government of the Soviet Union in 1987. I have sailed as a Chief mate since 1987, and I have sailed as a Chief Mate on this vessel since April 2001. This vessel trades between Canada and either Baltimore or Jacksonville, with voyages approximately equally divided between the two ports. On voyages to Baltimore the vessel transits the Chesapeake and Delaware Canal.

On 24 February 2002, we embarked a pilot in Delaware Bay at 23:34 hours. I took over the watch at 0400 hours on 25 February 2002 as the vessel approached the entrance to the Canal. The voyage through the Canal was uneventful, winds were light and variable with good visibility. At 0545 hours we changed Pilots off Chesapeake City where the Delaware Pilot disembarked.

On the bridge, I was in charge of the watch, together with a seaman at the wheel and another seamen on lookout duty. The lookout was inside the wheelhouse. The bosun was on standby forward to let go the anchor if required. The Pilot and the Master were on the bridge.

During the voyage through the Canal the Pilot handled all communications with the Canal Control on the ship's VHF radio. As far as I can recall, the Pilot did communicate with the Canal Control but he did not make me aware of the subject of the communication.

At 0611 hours the vessel passed between 31/32 buoys, 0625 hours buoys 23/24, and at 0634 Old Town Point Wharf was abeam to port. As the vessel approached Old Town Point Wharf steaming fog was observed just above the surface of the water, maximum height about 2 meters; it was not up to deck level. In accordance with our established procedure, I dismissed the bosun from standby forward at Old Town Point Wharf.

Referring back to the time at which the vessel left the Canal proper, I overheard a conversation between the pilot and an approaching tug and tow. The Pilot asked the tug for his position and after a minute delay the tug replied that he was at Turkey Point. The Pilot replied that there was plenty time for us to clear the Canal and a PORT TO PORT passing was agreed; also the Pilot made a comment on the tugboat's captain delay to reply regarding his position that looks like he doesn't know where he is. Soon after this conversation, the Master said he was going below to the toilet and he departed.

Soon after the bosun was dismissed from the focsle, we encountered dense fog. It was just before sunrise. It was difficult to determine the exact visibility, but I could see the focsle at all times. I switched on the automatic fog signal. I tried to contact the Bosun to get him to return to the focsle. There was no answer, possibly because he had switched off



his radio. I sent the lookout to tell the Bosun to resume watch on the focsle.

Referring back to the time the vessel was between Oldfield Point and Old Town Point Wharf, I switched the radar from 0.75 N. Miles range to the 3.0 N. Miles range. I observed a large target at a range of 2.8 N. Miles. I acquired the target on the ARPA. I took this to be the tug and tow to which the Pilot had communicated. The Pilot came over to observe the target on the starboard side radar which I was monitoring. I switched back and forth between the 0.75 and 1.5 N. Mile ranges.

At 0634 hours we altered course to 226° true and gyro around Old Town Point Wharf. The Pilot contacted the tow requesting the tug Master to keep closer to the red side of the channel as it appeared to the pilot that the tug and tow were almost in the center of the channel. The tug Master responded that he would comply.

When we had settled on the new course the radar was on the 1.5 N. Mile range. The target was on our port bow and appeared to be moving parallel to our heading line. I monitored the approach of the target until it was between 2.0/3.0 cables distant, still on the port side moving parallel to the heading line. At this point, I moved to the control stand at the center of the wheelhouse. I expected to see the tug and tow visually at any moment.

At this point I heard a transmission on the VHF radio "I fucked up all, do something."<sup>(1)</sup> Almost immediately the Pilot and I observed the lights of the approaching tow. I saw white superstructure of a tug with its deck lights and mast light on approximately 7 degrees on our starboard bow. I also saw large object on our port bow which appeared to be unlit. <sup>[<sup>(1)</sup>This comment succinctly and unequivocally summarizes the responsibility for the accident.]</sup>

My impression was that the tug and the tow were angled approximately 60 degrees across our bow. The Pilot ordered **FULL ASTERN** immediately and I put the engine control handle to the **FULL ASTERN** position. The tug boat passed down our starboard side but I did not see the large object which I had observed on the port side. I felt the vessel shake and almost immediately heard "Mayday, Mayday" on VHF Channel 13, probably from the tug.

The pilot ordered **FULL ASTERN, LET GO STARBOARD ANCHOR**. I repeated the order to let go the anchor on the hand held VHF radio. This was acknowledged by bosun; and then I heard the anchor chain running out. The lookout returned to the bridge as did the Master. The Master inquired what had happened, and I told him we had collided with tow. I sent the lookout forward to assist the bosun and the general alarm was sounded.

The Master instructed me to lower the rescue boat and it was in the water at 0715 hours, and we began to search for survivors. The fog was still dense but the Master gave me a course to steer to reach the closest target. There was some debris in the water which I checked but found no one. The first target was a barge with pontoons on deck. It was listing and trimmed heavily. Some of the pontoons had broken loose and were floating nearby. There was no one on the barge and I requested direction to second object from the Master.

As I proceeded to the second target there were small pieces of debris in the water. The second target was a dredge unit which appeared to have a crane on deck. I saw one person on board and then observed the tug with white

superstructure secured alongside the dredge on the side opposite to our rescue boat. The dredge was upright and appeared not to have suffered damage. I went around the dredge and came alongside to the tugboat to enquire if they required assistance. There was a number of persons on the tug and they advised that two persons on board were injured. They also told me there were four persons in the water, and I reported this information to the Master. I observed one person standing on deck holding his neck, and another person who came to the accommodation was shaking severely. They told me a Coast Guard helicopter was on its way to them. I advised them to put the person who was shaking in a stretcher and cover him up to keep him warm. His clothing did not appear to be wet. The Master instructed me to continue the search. I searched in a circular pattern and encountered some debris but no survivors. The visibility began to improve, and I observed a few Coast Guard and fire department boats on the scene. I took the rescue boat alongside one of the fireboats and enquired of the Coast Guard officer on board whether they required us to continue searching. He replied that we were relieved of our obligations and that we could return to the ship. I advised the master accordingly, and he instructed me to investigate the damage to our ship.

I observed one circular opening on the port side of the stem and a lengthwise opening slightly further aft on the port bow. In addition there were several indents and a long scratch on the starboard bow running aft for about 20 meters. I reported to the Master and then returned back to recovery davits where boat was recovered. *[Affidavit: Senior Nautical Surveyor Registry of Shipping Bermuda: I give this solemn statement consisting of 3 pages, believing it to be true and I have read it over. s/Chief Mate A.V. Kastner.]*

#### **Statement of Master of Tug BUCHANAN 14**

At watch change, (my) mate told me of the outbound ship coming down from C&D Canal. Understood port-to-port passage. I talked to ship KASTNER, confirmed port-to-port passage. My vessel was towing deck barge 811 and Dredge Jekyll Island on short wire inbound at buoy "14." Talked to ship between "14" and "16." He told me he was as far over to the green side as he could get. I responded we were over on the red side almost to buoy "16" and was close, just trying to get past buoy "16" (in) zero visibility. My mate and engineer were in the wheelhouse with me keeping watch. C C said "I see it" thinking buoy "16" had broken out of the fog and I said, "The buoy?" He responded, "Oh, God, it's the ship."

At that time, the ship was just off center of my starboard bow and closing fast. My instant reaction was to turn hard to port to clear the KASTNER because if I had gone to starboard we would have been hit broadside on our port side.

At that moment, we slid down the starboard side of the KASTNER and once he cleared my stern, the tow wire started paying off the winch. After that, which was only a split second, the KASTNER hit the deck barge I was towing and then the tug SWIFT.

#### **Statement of the Mate of the Tug SWIFT**

On February 25, as the flotilla was proceeding up the Elk River, MD, under tow of the tug BUCHANAN 14, I (was) acting as mate of the Tug SWIFT. The flotilla (was) made

up as follows: Tug BUCHANAN, pipe barge 811, Dredge Jekyll Island, Tug SWIFT, Derrick Barge and dredge pipeline. Each vessel was tied to the vessel in front of it.

I was on the midnight to 0600 watch at the time I was relieved at about 0545. The visibility was good. The tug SWIFT was locked in by a double soft line to the ladder of the dredge Jekyll Island. The rudder was midship, and because the tug BUCHANAN 14 was navigating the flotilla, I did not make any steering adjustments. The flotilla was underway to Delaware City, DE, to do a dredging job.

A crashing sound awoke me as I was thrown out of my bunk at about 0645. I kicked the door open and got out of the stateroom. The boat was laying on its side and sinking.

I grabbed a life ring and handed it to the Master and Justin Bryant and told them, "Don't panic, hold onto this and keep your head above the water. We're going in!"

The tug SWIFT rolled bottom-up. I swam to a location so that I could get up on the bottom of the tug and help the other men. Before I got to the bottom of the tug, I lost sight of them. Pusher-10 came and picked me up and took me to BUCHANAN 14. I was shaking violently, so I went to the shower and got warm water running on me to stop the hypothermia. Someone gave me clothes, then I insisted the other men do the same.

### **Conclusions of the Coast Guard Investigation Of the Elk River Collision**

*[Source: USCG accident report. Black marks indicate USCG redactions from the text of the report furnished to us. Underlining for emphasis is ours. GCMA Comment: This provides an excellent post-accident view of the application of various "Rules of the Road."]*

1. The proximate cause of this casualty was the apparent loss of situational awareness on the part of Captain g g g g , Master of the BUCHANAN-14, while operating in restricted visibility following an unexpected encounter with heavy fog and his failure to adequately assess the risk of collision under the prevailing circumstances. Evidence suggests Captain g g g g failed to adequately monitor the A.V. KASTNER's movement as well as his own vessel's movement and position relative to oncoming traffic which resulted in his vessel and associated tow being placed in the path of, and colliding with the M/V A.V. KASTNER.

Evidence suggests that the crew of the BUCHANAN-14 was unaware of their vessels exact position within the Elk River leading up to and at the time of collision. Both Captain g g g g and Mate g g g g assert that the collision occurred in a position just southwest of buoys G15 and R16, on the "red" side of the channel. g g g g indicated in a statement that the BUCHANAN- 14 was "below a quarter of a mile from buoy 16 and were trying to get make a visual on buoy 16 when KASTNER appeared 50 to 100 ft off our starboard quarter." Based on the physical evidence recovered on scene, their assertion is deemed not believable. A thirty foot long by twenty-four inch diameter spud constructed of one inch steel that was ejected from the deck of the RC-811 upon impact, and located during a post-casualty survey conducted by ACOE (U.S. Army Corps of Engineers) supports the conclusion that the proximate location of the collision between the A.V. KASTNER and the RC-811 occurred approximately 400 feet northeast of buoys G15 and R16 and 75 feet north of the centerline of the

channel on the green side. Based on this evidence it is highly unlikely that the A.V. KASTNER was transiting on the wrong side of the channel as g g g g and g g g g asserted. In all likelihood, the actual point of impact probably occurred at a point further north and east of the location of the recovered spud as the barge was driven backwards as a result of the impact.

2. Evidence suggests that Captain g g g g violated Rule 7 (Risk of Collision), of the Inland Regulations for Prevention of Collisions at Sea 1972 (COLREGS), which contributed to this casualty. Rule 7 states:

(a) Every vessel shall use all available means appropriate to the prevailing circumstances and conditions to determine if risk of collision exists. If there is any doubt such risk shall be deemed to exist.

(b) Proper use shall be made of radar equipment if fitted and operational, including long-rang scanning to obtain early warning of risk of collision and radar plotting or equivalent systematic observation of detected objects.

(c) Assumptions shall not be made on the basis of scanty information, especially scanty radar information.

(d) in determining if risk of collision exists the following considerations shall be among those taken into account:

(i) such risk shall be deemed to exist if the compass bearing of an approaching vessel does not appreciably change; and

(ii) such risk may sometimes exist even when an appreciable bearing change is evident, particularly when approaching a very large vessel or a tow or when approaching a vessel at close range.

Evidence suggests Captain g g g g navigated by, and relied upon scanty radar information only during the final moments leading up to the collision. C C C indicated he had his radar set on the one-eighth mile scale, "heads-up" display with his own vessel off-set to the bottom of the scope. In this configuration, he could only view out to a quarter of a mile directly in front of his vessel and to his beam on either side. At this range he could not see any land masses or other reference points such as nearby ranges (only buoys), that may have aided in determining his vessel's position within the channel and relative bearing with the oncoming A.V. KASTNER. Once the BUCHANAN-14 encountered fog, Captain g g g g indicated that he operated solely by his radar-heading flasher and was not aware of his compass heading. g g g g indicated that he was concerned about avoiding buoy "R16" and therefore set his heading flasher to the left of the target which he assumed was R16. However, in one-eighth mile radar setting, Captain g g g g would not have sighted the A.V. KASTNER on radar until he was abeam of buoys G15 and R16. With his radar heading flasher set to the left of the target displayed in front of him and his determination to keep his vessel to the left of the target, it is highly likely that from that point forward, Captain g g g g , unknowingly steered his vessel and tow directly toward, and into the path of the A.V. KASTNER.

There is no evidence that Captain g g g g or the crew of the BUCHANAN-14 employed any long-range scanning to obtain early warning of risk of collision, or any systematic observation of detected objects. Such observation may have enabled an appropriate and timely determination as to the risk of collision and allowed time for necessary actions to

avoid collision altogether.

3. Evidence suggests Captain g g g g violated Rule 8 (*Action to Avoid Collision*), of the Inland Regulations for Prevention of Collisions at Sea 1972 (COLREGS), which contributed to this casualty. Rule 8 states in part:

(a) Any action taken to avoid collision shall, if the circumstances of the case admit, be positive, made in ample time and with due regard to the observance of good seamanship and

(e) if necessary to avoid collision or to allow more time to assess the situation, a vessel shall slacken her speed or take all way off by stopping or reversing her means of propulsion.

There is no evidence that Captain g g g g took any action in ample time to avoid collision or to allow more time to assess his situation. Captain g g g g indicated during an interview that he did not adjust the power settings of the BUCHANAN-14 in any way until after the collision and after the A.V. KASTNER had passed his position. Captain g g g g indicated that when he first saw the A.V. KASTNER, he immediately went hard to port with the rudders but did not push the throttles up as they were already at “full ahead”. Given that the engine settings were at full ahead from the time Captain g g g g encountered restricted visibility to the time of collision, it is apparent that no effort was made to slacken or take way off to avoid collision or allow more time to assess the situation as required by Rule 8:

4. Evidence suggests Captain g g g g violated Rule 19 (*Conduct of Vessels in Restricted Visibility*), of the Inland Regulations for Prevention of Collisions at Sea 1972 COLREGS. Rule 19 states in part:

(d) A vessel which detects by radar alone the presence of another vessel shall determine if a close-quarters situation is developing or risk of collision exists. If so, she shall take avoiding action in ample time, provided that when such action consists of an alteration of course, so far as possible the following shall be avoided:

(i) an alteration of course to port for a vessel forward of the beam other than for a vessel being overtaken

(ii) An alteration of course toward a vessel abeam or abaft the beam.

(e) Except where it has been determined that a risk of collision does not exist, every vessel which hears apparently forward of her beam the fog signal of another vessel, or which cannot avoid a close quarters situation with another vessel forward of her beam, shall reduce her speed to the minimum at which she can be kept on course. She shall if necessary take all her way off and, in any event, navigate with extreme caution until the danger of collision is over.

From the time Captain g g g g encountered restricted visibility due to fog, up to the point of collision, there is no evidence to suggest that any effort was made on his part to determine his relative position within the channel and assess the risk of collision with the ship. He was navigating using radar heading flasher only and was unaware of his compass heading. Moments leading up to this incident a risk of collision did exist between the BUCHANAN-14 and the A.V. KASTNER and Captain g g g g admittedly was having difficulty finding, and was more concerned about the potential of alliding with buoy R16. However, Captain g g g g never slackened his speed, initiated any course changes, or exercised additional caution or measures to

further assess the risk of collision. He only altered course once he found himself in extremis.

It is apparent that the crew of the BUCHANAN-14 exercised poor judgment in deciding to continue its approach toward the A.V. KASTNER given the existing conditions. Based on the maximum draft of eight feet, and the charted depth of water immediately surrounding the Elk River Channel, the BUCHANAN-14 and the remainder of the flotilla could feasibly have exited the channel without running aground prior to meeting the A.V. KASTNER and waited for the ship to safely pass.

Had Captain g g g g made a full appraisal of the situation based on the existing conditions and taken all appropriate and prudent actions necessary and in ample time to avoid collision with the A.V. KASTNER on the morning of 25 February 2002, this unfortunate situation which resulted in the tragic loss of four lives, would likely have been avoided altogether.

5. The crew of the BUCHANAN-14 failed to have on board an up to date navigational chart for the area being transited. Although the outdated chart was not a likely contributing factor to the collision, the lack of an updated navigational chart is a violation of Title 33, Code of Federal Regulations, §164.72(b) which states in part: “Each towing vessel must carry onboard and maintain the following:

(1) Charts or Maps. Marine charts or maps of the areas to be transited, published by the National Ocean Service (NOS), the ACOE, or a river authority that satisfy the following requirements:

(ii) The charts or maps must be either

(A) Current editions or currently corrected editions, if the vessel engages in towing exclusively on the navigable waters of the U.S., including Western Rivers”.

6. Evidence suggests Chief Officer g g g g of the A.V. KASTNER violated Rule 5 (*Lookout*), of the Inland Regulations for Prevention of Collisions at Sea 1972 (COLREGS). Rule 5 states;

Every vessel shall at all times maintain a proper look-out 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.

Upon exiting the C&D Canal, Chief Officer g g g g released the Bosun from his duties on the forecandle. At the time the Bosun was released, the A.V. KASTNER was approaching Old Town Point Wharf, and the Chief Officer reported observing “steaming fog just above the surface of the water, maximum height about 2 meters.” Shortly afterwards, the Chief Officer noticed a thick fog developing, and he attempted to contact the Bosun by radio to have him return to his position on the forecandle with negative results. The Chief Officer then instructed the bridge lookout to physically find the Bosun and direct him to resume his watch on the forecandle while the vessel transited through the heavy fog. The collision took place between the time the AB contacted the Bosun and before both individuals resumed their respective look-out positions.

At the time of the collision, there was no lookout posted on the bridge or forecandle of the A.V. KASTNER. Although visibility was significantly reduced due to the fog conditions, witnesses stated the A.V. KASTNER’s forecandle remained visible at all times during the voyage. It is reasonable to conclude that had a proper lookout, as required

by Rule 5 of the COLREGS and the Beltship Management Limited's Technical Operations Manual, been posted on A.V. KASTNER's forecastle, the BUCHANAN-14 may have been spotted earlier, and potentially within adequate time to take sufficient action to avoid collision.

7. Evidence suggests Chief Officer g g g g violated Rule 7 (Risk of Collision), of the Inland Regulations for Prevention of Collisions at Sea 1972 (COLREGS) which contributed to the collision. g g g g appears to have relied on scanty radar information and failed to adequately assess, and or recognize the risk of collision with the BUCHANAN-14 and its tow. The last radio transmission between the A.V. KASTNER and the BUCHANAN-14 occurred approximately 3.5 minutes prior to the collision when the vessel were 1,500 yards from one another. At that time, KASTNER's pilot indicated that he was as far to the right as he could possibly get and that the BUCIIANAN -14 was close to the green side of the channel ("fairly close to my side"). However, there is no evidence of additional radar plotting, follow-up radio transmissions, or any actions taken on the part of the A.V. KASTNER's crew to adequately ascertain the BUCHANAN-14's actual position, heading, and relative bearing to assess the risk of collision. This resulted in the bridge team of A.V. KASTNER failing to recognize the BUCHANAN-14 had crossed into its path until both vessels were in extremis.

8. Evidence suggests Chief Officer g g g g violated Rule 8 (*Action to Avoid Collision*), of the Inland Regulations for Prevention of Collisions at Sea, 1972 (COLREGS), which contributed to this casualty. Rule 8 states in part:

(a) Any action taken to avoid collision shall, if the circumstances of the case admit, be positive, made in ample time and with due regard to the observance of good seamanship and

(e) If necessary to avoid collision or to allow more time to assess the situation, a vessel shall slacken her speed or take all way off by stopping or reversing her means of propulsion.

9. Evidence suggests Chief Officer g g g g violated Rule 19 (Conduct of Vessels in Restricted Visibility), of the Inland Regulations for Prevention of Collisions at Sea 1972 COLREGS. Rule 19(d)(e)...(is cited above).

Chief Officer g g g g indicated that at approximately 0634 "the visibility suddenly and drastically deteriorated." The elapsed time from when the A.V. KASTNER first encountered restricted visibility to the point of collision was approximately ten minutes. During this same period of time, the Chief Officer indicated there was some concern on his part with regard to the position of the BUCHANAN-14 and its tow. In the Chief Officer's statement he indicated: "It appeared on radar that the tug had moved into the middle of the channel. Pilot g g g g called and asked the tug to keep as far to their side as possible." Also during this time, there was no assigned look-out posted on the bridge, and there was no assigned look-out posted on the forecastle of the A.V. KASTNER. Despite the restricted visibility conditions, the fact that no look-outs were posted and he expressed concerns regarding the movement of known oncoming traffic, the Chief Officer initiated no additional actions to avoid collision or to allow more time to assess the situation. At no time during this ten minute period was the power setting for the A.V. KASTNER's main propulsion

reduced in attempt to slacken the vessel's speed or all way taken off by stopping or reversing. Only after the BUCHANAN-14 passed beneath the ships bow were any actions initiated to alter the ships speed.

10. Prior to the collision, the BUCHANAN-14 with tow and the A.V. KASTNER were on nearly reciprocal courses – "Head-on" as defined by Rule 14 of the Inland Navigation Rules. Rule 14 states:

(a) When two power-driven vessels are meeting on a reciprocal or nearly reciprocal courses so as to involve risk of collision each shall alter her course to starboard so that each will pass on the port side of the other.

(b) Such a situation shall be deemed to exist when a vessel sees the other ahead or nearly ahead and by night she could see the masthead lights of the other in a line and/or both sidelights and by day she observes the corresponding aspect of the other vessel.

(c) When a vessel is in any doubt as to whether such a situation exists she shall assume that it does and act accordingly.

The vessels were in apparent extremis at the point when both vessels sighted one another visually. Based the A.V. KASTNER's maneuvering characteristics data and the point at which the crew made visual contact with the BUCHANAN-14, it appears that there was insufficient time to initiate an alteration of course or "crash stop" procedures to avoid the collision. Further, based on its relative heading at the time of extremis and its limited maneuverability due to the size and configuration of the tow, the BUCHANAN-14 was not able to maneuver its tow in time to avoid collision with the A.V. KASTNER.

11. Crew fatigue was not an apparent contributing factor to this incident. All surviving crewmen interviewed that were directly involved with this incident indicated receiving sufficient rest during the preceding 72 hours and all reported that they felt well rested at the time of the collision.

12. Drugs and, or alcohol were not a contributing cause to this incident. Although test results indicated g g g g by one individual, he was not involved with duties directly affecting the navigation of a any vessel.

13. Evidence suggests that watertight integrity on the SWIFT was less than adequate and not properly maintained while underway. This condition likely contributed to rapid down-flooding and the subsequent sinking of the vessel. At the time the Swift was raised, two of the three starboard side watertight doors were discovered open. Additionally, two wall-mounted air conditioning units were installed through the watertight bulkhead on the main deck (one mounted on the forward, starboard side bulkhead leading into the main deck berthing area, and the other was mounted on the aft bulkhead on time port side leading to the galley). Both air conditioning units measured approximately 18 inches by 24 inches. The air conditioning units became dislodged during this casualty and likely contributed to the additional ingress of water and subsequent down flooding.

**[GCMA Comment: We believe our efforts to promote the effective and traditional inspection of towing vessels by trained and qualified USCG inspectors will increase attention to improved watertight integrity issues on commercial towing vessels.]**