



National Transportation Safety Board

Washington, DC 20594

Safety Recommendation

Date: May 8, 2009

In reply refer to: M-09-1 through -5
M-05-5 (superseded)

Admiral Thad W. Allen
Commandant
United States Coast Guard
2100 Second Street, SW
Washington, DC 20593

On Wednesday, November 7, 2007, about 0830 Pacific standard time, the Hong Kong-registered, 901-foot-long container ship *M/V Cosco Busan* allided with the fendering system at the base of the Delta tower of the San Francisco–Oakland Bay Bridge.¹ The ship was outbound from berth 56 in the Port of Oakland, California, and was destined for Busan, South Korea. Contact with the bridge tower created a 212-foot-long by 10-foot-high by 8-foot-deep gash in the forward port side of the ship and breached the Nos. 3 and 4 port fuel tanks and the No. 2 port ballast tank. As a result of the breached fuel tanks, about 53,500 gallons of fuel oil were released into San Francisco Bay. No injuries or fatalities resulted from the accident, but the fuel spill contaminated about 26 miles of shoreline, killed more than 2,500 birds of about 50 species, temporarily closed a fishery on the bay, and delayed the start of crab-fishing season. Total monetary damages were estimated to be \$2.1 million for the ship, \$1.5 million for the bridge, and more than \$70 million for environmental cleanup.

The National Transportation Safety Board determined that the probable cause of the allision of the *Cosco Busan* with the San Francisco–Oakland Bay Bridge was the failure to safely navigate the vessel in restricted visibility as a result of (1) the pilot's degraded cognitive performance from his use of impairing prescription medications, (2) the absence of a comprehensive pre-departure master/pilot exchange and a lack of effective communication between the pilot and the master during the accident voyage, and (3) the master's ineffective oversight of the pilot's performance and the vessel's progress. Contributing to the accident was the failure of Fleet Management Ltd. to adequately train the *Cosco Busan* crewmembers before the accident voyage, which included a failure to ensure that the crew understood and complied with the company's safety management system. Also contributing to the accident was the U.S. Coast Guard's failure to provide adequate medical oversight of the pilot in view of the medical and medication information that the pilot had reported to the Coast Guard.

¹ For more information, see *Allision of Hong Kong-Registered Containership M/V Cosco Busan With the Delta Tower of the San Francisco–Oakland Bay Bridge, San Francisco, California, November 7, 2007*, Marine Accident Report NTSB/MAR-09/01 (Washington, DC: NTSB, 2009), which is available on the National Transportation Safety Board website at <<http://ntsb.gov/publictn/2009/MAR0901.pdf>>.

Coast Guard Medical Oversight of Mariners

In its investigation of this accident, the Safety Board found that the *Cosco Busan* pilot, at the time of the allision, experienced reduced cognitive function that affected his ability to interpret data and that degraded his ability to safely pilot the ship under the prevailing conditions. The Board determined that the pilot, as evidenced by his prescription history, was most likely taking a number of medications, the types and dosages of which would be expected to cause degradation of cognitive performance.

The pilot's most recent form 719K (January 19, 2007)² noted, in part, a history of: pancreatitis in 1998; passage of 10 kidney stones ("no stone for 10 years") treated with potassium citrate; alcohol abuse and current Alcoholics Anonymous attendance; depression; "occasional" headaches treated with sumatriptan; chronic esophagitis treated with daily rabeprazole³; sleep apnea diagnosed 1 year previously and treated with a continuous positive airway pressure device and daily use of modafinil "if needed"; "occasional abdominal pain" treated with propoxyphene; a 4-year history of glaucoma treated with brimonidine⁴ eye drops; and "occasional use of 1 mg lorazepam at bedtime for sleep."

Although the medical conditions and medications reported by the pilot represented only a portion of his actual medical history, they should have been sufficient to have prompted the regional examination center in Oakland to, at a minimum, forward the form to the National Maritime Center for further medical review. Instead, the regional examination center took no action with regard to the information on the pilot's form 719K, which permitted the pilot to continue his duties as a San Francisco bar pilot with no medical restrictions.

After the accident, the Coast Guard reviewed the information reported by the pilot on his most recent form 719K and, on that information alone, determined that he was not physically competent to maintain his license. Coast Guard records indicate that this was the first time information on his forms CG 719K had ever been reviewed by a qualified physician. Had the Coast Guard performed that same review earlier and had come to the same determination, the pilot would not have been on board the *Cosco Busan* on the day of the accident. The Safety Board therefore concludes that the Coast Guard, which had the ultimate responsibility for determining the pilot's medical qualification for retaining his merchant mariner's license, should not have allowed the pilot to continue his duties because the pilot was not medically fit.

The Safety Board first identified shortcomings in the Coast Guard's system of mariner medical oversight in its investigation of the 2003 allision of the *Andrew J. Barberi*.⁵ In its investigation of that accident the Safety Board wrote:

² This form 719K was submitted in response to the requirement that pilots of vessels of 1,600 gross tons or more have a physical examination annually and provide the form 719K to the Coast Guard. The pilot's license was not due for renewal at that time.

³ An anti-acid medication often known by the trade name Aciphex and indicated for the treatment of gastroesophageal reflux disease, esophagitis, and ulcers.

⁴ A medication often known by the trade name Alphagan and indicated for the treatment of glaucoma.

⁵ For more information, see *Allision of Staten Island Ferry Andrew J. Barberi, St. George, Staten Island, New York, October 15, 2003*, Marine Accident Report NTSB/MAR-05/01 (Washington, DC: NTSB, 2005), which is available on the Safety Board website at <<http://www.nts.gov/publictn/2005/MAR0501.pdf>>.

In attempting to determine the medical status of the assistant captain, the Safety Board found additional shortcomings in the Coast Guard's system of medical oversight of mariners. For example, headquarters Coast Guard personnel overseeing the medical evaluation process knew little about the quality of regional [examination center] reviews of medical evaluations—the initial, and for most mariners, the final evaluator of the results of medical examinations. Consequently, differences between regions in their reviews and determination of fitness may be present and undetected, potentially having an adverse effect on the reliability of the medical oversight system.

To address the shortcomings identified in the Coast Guard's system of medical oversight of mariners, the Safety Board issued the following safety recommendations to the U.S. Coast Guard:

M-05-4

Revise regulation 46 *Code of Federal Regulations* 10.709 to require that the results of all physical examinations be reported to the Coast Guard, and provide guidance to mariners, employers, and mariner medical examiners on the specific actions required to comply with these regulations.

M-05-5

In formal consultation with experts in the field of occupational medicine, review your medical oversight process and take actions to address, at a minimum, the lack of tracking of performed examinations; the potential for inconsistent interpretations and evaluations between medical practitioners; deficiencies in the system of storing medical data; the absence of requirements for mariners or others to report changes in medical condition between examinations; and the limited ability of the Coast Guard to review medical evaluations made by personal health care providers.

The Coast Guard agreed with both recommendations and has made progress in addressing the deficiencies identified in the *Andrew J. Barberi* accident investigation. For example, it has centralized the initial review of mariner medical documents and has employed a physician qualified in occupational medicine to oversee its medical review of merchant mariners.

The Safety Board believes that the Coast Guard's "Exercise of Authority To Require Pilots To Submit Results of Annual Chemical Tests for Dangerous Drugs and Extension of Deadline for Pilots to Submit Most Recent Annual Physical Examination," which the Coast Guard initiated through the *Federal Register* in response to Safety Recommendation M-05-4, has achieved the desired goal of requiring pilots to report the results of their annual medical evaluations. An example of the positive effects of this recommendation is the fact that reports of pilot physicals are now being submitted to the Coast Guard annually. Without this requirement, the pilot's 2007 form 719K would not have been submitted to the Coast Guard, and important information about the pilot's fitness for duty would not have been available to Coast Guard reviewers (even though in this case, that information was not appropriately acted on). Because of the Coast Guard's response to the recommendation, the Safety Board has reclassified Safety Recommendation M-05-4 "Closed—Acceptable Alternate Action."

The Safety Board has reviewed the recently issued Navigation and Vessel Inspection Circular 04-08 and has found it responsive to much of what the Safety Board called for in Safety Recommendation M-05-5. Further, the Coast Guard, by centralizing its review of mariner medical evaluation results under the supervision of a physician trained in occupational medicine, has eliminated inconsistencies that the Safety Board found among Coast Guard reviewers and has made it possible to track the results of medical evaluations.

The Coast Guard has not, however, taken action with regard to one deficiency noted in Safety Recommendation M-05-5; that is, the lack of a requirement for mariners to report changes in their medical condition between examinations. The Coast Guard has given no indication that it intends to implement such a requirement. The period between medical evaluations for non-pilot mariners is 5 years, during which considerable changes in a mariner's medical status or medication use can take place. Even pilots, who are required to be medically evaluated annually, can experience significant medical changes or be prescribed medications with potentially impairing side effects between required medical evaluations. The absence of a requirement mandating the reporting of substantive changes in medical condition or medication use can thus allow a mariner with a known potential for cognitive or physical performance degradation to serve in a safety-critical position on a vessel in any U.S. waterway. The Safety Board therefore concludes that the Coast Guard's system of medical oversight of mariners continues to be deficient in that it lacks a requirement for mariners to report changes in their medical status between medical evaluations. The Safety Board recommends that the Coast Guard require mariners to report to the Coast Guard, in a timely manner, any substantive changes in their medical status or medication use that occur between required medical evaluations. Because this recommendation addresses the only element of Safety Recommendation M-05-5 that has not been met, that recommendation has been reclassified "Closed—Acceptable Action—Superseded."

Guidance for Vessel Traffic Service Personnel

When the pilot decided to get the *Cosco Busan* under way, he was aware that visibility through the intended route was less than 1/2 nautical mile, but he elected to proceed with the outbound transit relying on his local knowledge, his previous experience, and the vessel's navigation systems. At the time the pilot notified Vessel Traffic Service (VTS) San Francisco via radio that he was under way, VTS San Francisco was operating under low-visibility procedures, and the VTS operator was aware that visibility throughout the entire Bay area was less than a quarter of a nautical mile. The VTS operator did not challenge the pilot's decision to get the *Cosco Busan* under way in such poor visibility, nor did he exercise any level of vessel control authority.

VTS San Francisco's low-visibility reporting procedures were the predominant tool used by the unit to mitigate the increased risks posed by vessel movement during restricted visibility. The procedure was enacted when visibility was 1 nautical mile or less and required VTS operators, in addition to the data they would normally report, to "read back" or report all radar targets that may affect a vessel's transit. Although the additional information regarding radar contacts would be helpful to mariners who choose to operate in fog or inclement weather, the low-visibility procedures left the responsibility for risk assessment and for making the decision to get under way entirely to the master or the pilot. Given the extremely limited visibility in the

early morning throughout the Bay area on the day of the accident, VTS San Francisco had the authority to restrict the movement of all vessels over a specified tonnage that were safely moored at berth or at anchorage until such time as the visibility improved.

Once under way, the *Cosco Busan* passed through the Bar Channel and made its port turn to start a slight southwesterly track. The vessel then remained on a southwesterly course over ground that exceeded the VTS operator's expectations and that placed the vessel to the south of the anticipated trackline for a passage through the Delta–Echo span. To the VTS operator, the vessel appeared to be deviating from the sailing plan. Per VTS San Francisco's standard operating procedures, the operator appropriately escalated the level of control over the *Cosco Busan* to the next level within the traffic management continuum—the *informing* level. At this level, VTS personnel provide mariners with information that may be beyond the ability of the vessel's navigational team to acquire. In this case, however, the VTS operator's attempt to alert the pilot to the developing situation actually added to the pilot's confusion.

About 3 minutes before the vessel allided with the Delta tower, the VTS operator radioed the pilot and stated, incorrectly, that "AIS shows you on a 235 heading." The system at VTS San Francisco was configured to display the vessel's course over ground, not its heading. The pilot responded in a somewhat confused manner, "Um, I'm coming around. I'm steering 280° right now." In fact, the ship was on a heading of about 262°. The pilot then ordered the helmsman to increase the rudder angle from 10° starboard to 20° starboard. When the VTS operator responded back to the pilot to ask if he still intended to use the Delta–Echo span, he provided no amplifying information to the pilot with regard to the vessel's proximity to the bridge support tower or to the vessel's position, which was well over 1,000 feet south of the vessel's expected track. Either of these critical pieces of information might have served to alert the pilot to the risk of allision.

Having been asked by the VTS operator only to verify his route intentions, the pilot attempted to get reassurance that the vessel was on the intended route by asking the master again, "This is the center of the bridge, right?" while referring to the electronic chart display. When the master responded, "yeah, yeah," the pilot ordered the helmsman to increase the rudder angle from 20° starboard to hard starboard and responded back to VTS, "Yeah, we're still Delta–Echo." With that navigational order, the *Cosco Busan* was proceeding toward the Delta tower at a speed of more than 10 knots. The Safety Board therefore concludes that VTS San Francisco personnel, in the minutes before the allision, provided the pilot with incorrect navigational information that may have confused him about the vessel's heading.

In a postaccident interview, the on-duty VTS watch supervisor stated that, because of the pilots "calm" demeanor and the known time lag in the display of a ship's position on the VTS operator's screen, VTS personnel did not question the pilot further. After the exchange between VTS and the pilot, the *Cosco Busan* was about one ship length from the Delta tower and less than 1 minute from the allision. The VTS watch supervisor and the Central Bay operator adjusted the scale of their visual displays to the highest level of definition so they could closely monitor the situation, and they knew that the vessel would pass perilously close to the bridge tower. However, because they thought the pilot was aware of and in control of the situation, neither individual attempted to provide the pilot with this information or to otherwise alert him to the potential danger.

The authority of the VTS operator to direct the operation, movement, and anchorage of a vessel is discussed in general terms within applicable portions of the *Code of Federal Regulations* and *Coast Guard Marine Safety Manual*. There is, however, no program-wide policy or instruction that specifically tells VTS operators how or when to exercise their authority or when to elevate the level of control along the control continuum. At VTS San Francisco, the captain of the port did not issue a clear and concise local policy on his expectations of the use of VTS authority, although it was addressed broadly in several local forms of guidance used by the VTS operators, including the unit's standard operating procedures, the *Operational Policy Manual*, and the *Training Guide*.

As previously noted, the VTS operator had the authority to hold the *Cosco Busan* in its berth until visibility improved. But, in fact, the VTS operator lacked clear and distinct guidance on which to order such a restriction. Because of concerns about exceeding the level of authority associated with the position and the potential for significant cost to maritime industry brought about by delaying the ship's departure, this degree of control over the ship's movement would not be implemented at the VTS operator level without direction from higher authority. Existing direction, policy, and instruction at both the Sector San Francisco and at the headquarter levels of authority did not clearly convey command expectations to VTS personnel for use of this authority. Therefore, this extremely valuable waterways management tool was not implemented by VTS San Francisco personnel, nor was it considered a feasible option. The Safety Board therefore concludes that the lack of Coast Guard guidance on the use of VTS authority limited the ability of VTS San Francisco personnel to exercise their authority to control or direct vessel movement to minimize risk. The Safety Board recommends that the Coast Guard provide Coast Guard-wide guidance to VTS personnel that clearly defines expectations for the use of existing authority to direct or control vessel movement when such action is justified in the interest of safety.

During the VHF radio communications that took place between VTS and the *Cosco Busan* pilot just minutes before the allision, the VTS operator addressed the pilot using his pilot designator name, "Romeo." According to the vessel master, this use of a pilot designator rather than the vessel name, *Cosco Busan*, created initial uncertainty on his part about the nature of the communication. The master told investigators that, in his experience, VTS in overseas ports gave explicit warnings, using the vessel's name, if ships were in potential danger. Clearly, vessel masters and crews are more likely to immediately take note of and respond to their own vessel's name or designator rather than to one that is unfamiliar, or perhaps even unknown. In this case, in order for the master to have been aware immediately that VTS was communicating with his vessel, he would have to have known (1) that "Romeo" was the designator of a pilot, and (2) that "Romeo" was the pilot on board that vessel. Identifying the vehicle directly, as is done by most U.S. and overseas VTSs and by air traffic control systems worldwide, would eliminate these cognitive steps and consequently hasten crew comprehension of the object of the communication. Therefore, the Safety Board concludes that VTS communications that identify the vessel, not only the pilot, would enhance the ability of vessel masters and crew to monitor and comprehend VTS communications.

In response to a Safety Board request, the Coast Guard estimated that, of the 12 VTS locations in the United States, 8 use the vessel name or the vessel's call sign almost exclusively. The remaining four VTS locations (San Francisco, Houston-Galveston, Port Arthur, and Lower

Mississippi River) use the vessel name and the pilot designator on initial check-in and, once reliable communications have been established, they use the pilot designator for most communications. The Safety Board recommends that the Coast Guard revise its VTS policies to ensure that all VTS communications identify the vessel, not only the pilot, when vessels operate in pilotage waters.

When communicating with a pilot or a vessel master over the VHF radio, the VTS operator must strike a balance between brevity and conveying sufficient unambiguous information to help the pilot avoid danger. The operator must also use discretion in the timing of a communication so as to avoid disrupting the navigation team during critical phases of vessel maneuvering. However, guidance from the International Maritime Organization (IMO) on recommended standardization of language and terminology used in marine communication provides suggested phrases for VTS operators to use in these instances, including “Your present course is too close to . . .” and “You are running into danger.”⁶ This was the type of explicit VTS guidance that the master told investigators that he had heard being used in other VTS locations, and the absence of such explicit warnings suggests that the master did not immediately recognize from the VTS conversation with the pilot that the vessel was getting dangerously close to the Delta tower.

The Safety Board notes that the in-house VTS recertification and requalification training implemented in September 2008 includes a module that promotes preventative measures through the use of concise communications. In this accident, although more explicit communications on the part of VTS may have better alerted the pilot and the master to the hazard, the Safety Board cannot determine whether even explicit language would have prevented the allision. Such language may have more clearly alerted the pilot to the risk, but the time available to take action was short, and the specific actions needed would not have been obvious. The pilot might have been able to take action that would have prevented or reduced the severity of the accident, but he could have been just as likely to have taken actions that would have had the opposite effect. The Safety Board therefore concludes that, although VTS San Francisco personnel should have provided the pilot and the master with unambiguous information about the vessel’s proximity to the Delta tower, the Safety Board could not determine whether such information, had it been provided, would have prevented the allision.

Influences of Culture and Language on Effective Bridge Resource Management

The Safety Board evaluated to what extent cultural factors may have made the master hesitant about questioning the authority of the pilot with regard to vessel navigation. Research first conducted among workers in the same multinational corporation and then in safety-critical systems showed that individuals behaved differently in ways that could largely be explained by their particular nationality or culture.⁷ Among the characteristics measured was the extent to

⁶ IMO Resolution A.918(22), *IMO Standard Marine Communications Phrases, A1/6.2.3.5 Vessel Traffic Service (VTS) Standard Phrases, Avoiding Dangerous Situations, Providing Safe Movements*.

⁷ (a) G. Hofstede, *Culture’s Consequences: International Differences in Work-Related Values* (Beverly Hills, California: Sage, 1980); (b) G. Hofstede, *Cultures and Organizations: Software of the Mind* (New York: McGraw-Hill, 1991); (c) R. L. Helmreich, J. A. Wilhelm, J. R. Klinec, and A. C. Merritt, “Culture, Error, and Crew Resource Management” in E. Salas, C. A. Bowers, and E. Edens (Eds.), *Improving Teamwork in Organizations:*

which individuals deferred to figures in authority, referred to as “power distance.” People from Asian cultures were found, in general, to be more likely to defer to people in authority than were people from Western societies.

For example, the pilot involved in this accident had, in the past, demonstrated an assertive presence with individuals who were nominally his superior in either authority or education, such as the examining physician and the naval officers on the *USS Tarawa*. The pilot’s assertive demeanor may have made the master even more reluctant to challenge him, even with regard to the conduct of a formal master/pilot exchange.

In addition, although sufficiently competent with English to be deemed qualified for his position, the master was not a native English speaker. Therefore, to engage the pilot in a discussion of departure issues, although within the master’s ability, would have been more difficult for him than for someone with native English-speaking ability.

Because of experiential, language, and cultural differences between the pilot, the master, and the remainder of the bridge team, and the perceived attitude of the pilot, the lines of authority on the *Cosco Busan* bridge became blurred to the point that the master deferred to the pilot for all decisions regarding vessel navigation, from the decision to depart up to and including the time of the allision. Although these factors did not relieve the master of the authority and responsibility for asserting his command when navigation of the vessel became questionable, they may explain why the master did not assert his authority and why the bridge team proved ineffective in preventing the allision. The Safety Board therefore concludes that the interactions between the pilot and the master on the day of the allision were likely influenced by a disparity in experience between the pilot and the master in navigating the San Francisco Bay and by cultural differences that made the master reluctant to assert authority over the pilot.

Although bridge resource management has become a standard part of mariner curricula, the circumstances of this accident suggest the need for specific mariner training in power distance and other cultural factors, especially in light of the fact that in the marine industry, unlike commercial aviation, multicultural crews are common. The Safety Board therefore recommends that the Coast Guard propose to the IMO that it include a segment on cultural and language differences and their possible influence on mariner performance in its bridge resource management curricula.

Communication Among Pilot Oversight Organizations

The Safety Board learned during its investigation of this accident that no formal mechanism exists by which any pilot oversight jurisdiction may easily engage in formal discussions or information exchanges with any other pilot oversight organization. One pilot oversight organization did, in the 1990s, sponsor such an exchange of national pilot oversight bodies, but after two meetings, this local effort by one oversight entity was not repeated. Regular meetings of pilot oversight organizations would provide a means for those organizations to discuss and learn of common issues and to develop and evaluate innovative ways of addressing

common challenges. The Safety Board concludes that a mechanism for the collection and regular communication among pilot oversight organizations of pilot-related performance data and information regarding pilot oversight and best practices would enhance the ability of those organizations to effectively oversee pilots.

Unfortunately, for a local jurisdiction, the resources needed to sponsor even one such meeting would be a challenge in itself. Not only would it have to contact and determine the availability of each of the other jurisdictions, it would also have to arrange for a meeting site, organize an agenda, and deal with myriad logistical details. The resources needed to organize a single meeting likely exceeds those available to all but a few pilot oversight entities; yet, for the benefits of such an effort to be realized, meetings should be held regularly. The Coast Guard, with more than 40,000 employees nationwide and a specific responsibility for harbor and port safety, has the expertise and resources to coordinate such meetings. The Safety Board recommends that the Coast Guard establish a mechanism through which representatives of pilot oversight organizations collect and regularly communicate pilot performance data and information regarding pilot oversight and best practices.

As a result of this accident investigation, the National Transportation Safety Board makes the following safety recommendations to the U.S. Coast Guard:

Propose to the International Maritime Organization that it include a segment on cultural and language differences and their possible influence on mariner performance in its bridge resource management curricula. (M-09-1)

Revise your vessel traffic service policies to ensure that vessel traffic service communications identify the vessel, not only the pilot, when vessels operate in pilotage waters. (M-09-2)

Provide Coast Guard-wide guidance to vessel traffic service personnel that clearly defines expectations for the use of existing authority to direct or control vessel movement when such action is justified in the interest of safety. (M-09-3)

Require mariners to report to the Coast Guard, in a timely manner, any substantive changes in their medical status or medication use that occur between required medical evaluations. (M-09-4) Supersedes M-05-5

Establish a mechanism through which representatives of pilot oversight organizations collect and regularly communicate pilot performance data and information regarding pilot oversight and best practices. (M-09-5)

Also as a result of this accident investigation, the Safety Board has reclassified two safety recommendations previously issued to the U.S. Coast Guard, as follows:

M-05-4

Revise regulation 46 *Code of Federal Regulations* 10.709 to require that the results of all physical examinations be reported to the Coast Guard, and provide guidance to mariners, employers, and mariner medical examiners on the specific actions required to comply with these regulations.

Safety Recommendation M-05-4, previous classified “Open—Acceptable Response,” has been reclassified “Closed—Acceptable Alternate Action.”

M-05-5

In formal consultation with experts in the field of occupational medicine, review your medical oversight process and take actions to address, at a minimum, the lack of tracking of performed examinations; the potential for inconsistent interpretations and evaluations between medical practitioners; deficiencies in the system of storing medical data; the absence of requirements for mariners or others to report changes in medical condition between examinations; and the limited ability of the Coast Guard to review medical evaluations made by personal health care providers

Safety Recommendation M-05-5, previously classified “Open—Acceptable Response,” has been reclassified “Closed—Acceptable Action—Superseded.”

The Safety Board also issued safety recommendations to the American Pilots’ Association and Fleet Management Ltd.

In response to the recommendations in this letter, please refer to Safety Recommendations M-09-1 through -5. If you would like to submit your response electronically rather than in hard copy, you may send it to the following e-mail address: correspondence@ntsb.gov. If your response includes attachments that exceed 5 megabytes, please e-mail us asking for instructions on how to use our Tumbleweed secure mailbox. To avoid confusion, please use only one method of submission (that is, do not submit both an electronic copy and a hard copy of the same response letter).

Acting Chairman ROSENKER and Members HERSMAN, HIGGINS, and SUMWALT concurred in these recommendations. Member Hersman voted to disapprove the marine accident report and filed a dissenting statement concerning the findings and probable cause for this accident, which is attached to the report.

[Original Signed]

By: Mark V. Rosenker
Acting Chairman