



National Transportation Safety Board

Washington, DC 20594

Safety Recommendation

Date: November 27, 2012

In reply refer to: M-12-8 through -10

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During the investigation of a marine accident, the National Transportation Safety Board (NTSB) verifies that individuals directly involved in a serious marine incident,¹ or in a marine incident that is likely to become serious, have been tested in a timely manner to determine whether they were under the influence of illicit drugs or alcohol at the time of the incident. The NTSB considers this testing vital, given that the actions of individuals under the influence of alcohol and/or drugs can contribute to or cause accidents.² The NTSB further believes that postaccident toxicological testing of Coast Guard personnel should at least be equivalent to the standards for merchant mariners. It currently is not, despite the fact that Coast Guard personnel perform a number of safety-sensitive maritime roles similar to those of merchant mariners, such as operating vessels and monitoring vessel traffic.

Merchant mariners are subject to Coast Guard regulations for postaccident toxicological testing, which were originally adopted in 1989 (drugs) and 1994 (alcohol).³ These regulations require pre-employment, periodic, random, reasonable cause, and postaccident testing, and specify the maximum allowable drug and alcohol concentration levels, testing intervals, postaccident testing procedures, and reporting guidelines. In 2006, the regulations were improved (see Attachment 1), in part as the outcome of an NTSB special investigation report.⁴ The report, which studied 28 marine accident investigations, resulted in 11 recommendations to the Coast Guard

¹ According to 46 *Code of Federal Regulations* (CFR) 4.03-2, a serious marine incident results in any of the following: one or more deaths; injury to a crewmember, passenger, or other person that requires professional medical treatment beyond first aid, and, in the case of a person employed on board a vessel in commercial service, an injury that renders the individual unfit to perform routine vessel duties; damage to property in excess of \$100,000; total loss of any vessel subject to inspection under 46 *United State Code* 3301, or total loss of any self-propelled vessel of 100 gross tons or more not subject to said inspection; discharge of 10,000 gallons of oil or more into US navigable waters, or discharge of a reportable quantity of a hazardous substance into US navigable waters or into the environment of the United States.

² For the purpose of this letter, "accident(s)" means "serious marine incident(s)."

³ For a detailed review of these regulations, see 33 CFR Part 95, 46 CFR Parts 4 and 16, and 49 CFR Part 40.

⁴ *Postaccident Testing for Alcohol and Other Drugs in the Marine Industry and the Ramming of the Portland-South Portland (Million Dollar) Bridge at Portland, Maine, by the Liberian Tankship Julie N on September 27, 1996*, Special Investigation Report NTSB/SIR-98/02 (Washington, D.C.: National Transportation Safety Board, 1998).

concerning postaccident toxicological testing of merchant mariners. The revised regulations include:

- Collection of breath samples for alcohol testing is required within 2 hours of an accident (or, if collection is initially “precluded by safety concerns directly related to the incident,” within 8 hours of the accident);
- Collection of urine specimens for drug testing is required within 32 hours;
- Saliva is authorized as an acceptable alternate specimen for alcohol testing; and
- Most commercial vessels are required to have alcohol testing devices on board.

However, although merchant mariners are subject to the revised Coast Guard regulations for postaccident toxicological testing, Coast Guard personnel are not. The Coast Guard has different sets of standards for testing its own personnel. For example, the timeframe for testing Coast Guard military personnel is not defined; instead, Coast Guard policy merely states that these personnel should be tested “as soon as possible” after a mishap.⁵ Moreover, when it comes specifically to alcohol testing of Coast Guard military personnel, Coast Guard policy does not address whether blood or breath samples should be collected, nor associated custody procedures. In addition, Coast Guard policy is not specific as to which Coast Guard personnel should be toxicologically tested after a mishap—different standards (outlined in Attachment 2) apply to Coast Guard military personnel than to Coast Guard civilian personnel. By contrast, regulations addressing merchant mariners clearly specify which mariners are subject to postaccident toxicological testing.⁶

The NTSB has previously recommended that the Coast Guard improve its policy and procedures for testing its own personnel. Following the December 29, 1997, sinking of the *Morning Dew*,⁷ in which four people died and in which Coast Guard watchstanders did not promptly initiate an emergency response after receiving distress calls from the vessel and were never tested for drugs and alcohol, the NTSB issued Safety Recommendation M-99-15 to the Coast Guard:

Establish procedures for toxicological testing for alcohol and drugs of Coast Guard personnel in group and unit operations and communications centers whose work performance may be linked to an accident.

The Coast Guard did not implement the recommendation, stating that the Coast Guard already tests for drugs and alcohol whenever supervisors deem it necessary. In April 2005, the NTSB classified Safety Recommendation M-99-15 “Closed—Reconsidered.”

⁵ Enclosure (4) to COMDTINST M5100.47 *Mishap Board Appointment, Composition and Procedures*, page 5, paragraph 9, *Medical Officer Responsibilities*.

⁶ For further detail on which mariners are subject to testing, see 33 CFR 95.015 and 46 CFR 16.105.

⁷ *Sinking of the Recreational Sailing Vessel Morning Dew at the Entrance to the Harbor of Charleston, South Carolina, December 29, 1997*, Marine Accident Report NTSB/MAR-99/01 (Washington, D.C.: National Transportation Safety Board, 1999).

Attachment 2, “Postaccident Drug and Alcohol Testing Comparison Table,” provides a side-by-side comparison of the Coast Guard’s existing standards for postaccident toxicological testing of merchant mariners, Coast Guard military personnel, and Coast Guard civilian personnel. The key differences are the following:

- Merchant mariner breath samples for alcohol testing must be collected within 2 hours of an accident (or not more than 8 hours after).
 - Coast Guard military: No specific timeframe is provided.
 - Coast Guard civilian: No postaccident test is required for alcohol use.
- Merchant mariners’ allowable blood alcohol content (BAC) is specified (less than .04).
 - Coast Guard military: No BAC limit is specified.
 - Coast Guard civilian: No postaccident test is required for alcohol use.
- Merchant mariners must be drug tested within 32 hours of an accident.
 - Coast Guard military: No specific timeframe is provided.
 - Coast Guard civilian: Within 4 hours of an accident (or not more than 5 days after).

Five recent marine accidents investigated by the NTSB highlight the concern that the Coast Guard’s standards for testing its own personnel are vague and lead to inadequate testing:

1. On November 7, 2007, the 901-foot-long Hong Kong-registered containership *Cosco Busan* allided with the Delta tower of the San Francisco–Oakland Bay Bridge. The vessel’s fuel tanks were breached and 53,500 gallons of fuel oil spilled into San Francisco Bay. Total monetary damages were estimated to be \$1.24 million for the ship, \$1.5 million for the bridge, and more than \$70 million for environmental cleanup. The commanding officer at Coast Guard Sector San Francisco did not direct the four vessel traffic service (VTS) watchstanders (one military controller, two civilian controllers, and one civilian supervisor) to submit urine, blood, or breath specimens for toxicological testing. He later told investigators that he “was not aware of any policy whatsoever” when it came to testing Coast Guard personnel whose actions may have played a role in an accident.
2. On July 2, 2008, the 187-foot-long passenger and car ferry M/V *Block Island* collided with the 140-foot-long Coast Guard cutter *Morro Bay* in reduced visibility on Block Island Sound, south of Point Judith, Rhode Island. The vessels sustained about \$60,000 in damage, and two *Block Island* passengers were treated for minor injuries. Because no toxicological sampling kits were on board the *Morro Bay*, 7 hours passed before the crew was tested for drugs and alcohol at the Coast Guard station in New London, Connecticut.
3. On December 5, 2009, the 29.5-foot-long Coast Guard response boat – small (RB-S) *CG 25689* and the 54.5-foot-long passenger vessel *Thriller 09* collided in Charleston Harbor, South Carolina. Four passengers on board the *Thriller 09* were injured in the

accident. Although drug testing was conducted on all three Coast Guard crewmembers within 18 hours, only the coxswain was tested for alcohol (about 1 hour after the accident). The other two crewmembers (who both served as lookouts) were not tested for alcohol.

4. On December 20, 2009, the 33-foot-long Coast Guard special purpose craft – law enforcement (SPC-LE) *CG 33118* collided with a 24-foot-long Sea Ray recreational vessel in San Diego Bay, California. As a result of the accident, an 8-year-old boy on board the Sea Ray was killed and four other people on board sustained serious injuries. Five hours passed after the collision before the Coast Guard crewmembers were tested for drugs and alcohol.
5. On October 29, 2011, the 799-foot-long tankship *Elka Apollon* collided with the 777-foot-long containership *MSC Nederland* in the Houston Ship Channel near Houston, Texas. Immediately after the accident, the director of the Houston-Galveston VTS deemed that the VTS personnel had not played a role in the accident and therefore did not need to be drug and alcohol tested. However, later that same day, the Coast Guard captain of the port of Houston ordered the four VTS watchstanders (three military controllers and one civilian supervisor) to be tested for drugs. The civilian employee worked in a position designated only for drug testing⁸ and was thus not required to submit samples for alcohol testing. However, the military personnel were required to be tested for alcohol, but never were.

The Coast Guard is the regulatory agency responsible for ensuring that marine employers test all merchant mariners involved in accidents for the presence of drugs and alcohol. Moreover, Coast Guard vessel crews perform similar duties and often navigate the same US waters as merchant mariners. Furthermore, the vigilance of Coast Guard operations center personnel (VTS, search and rescue, and others) is important for the protection of public safety and the marine environment. The Coast Guard's having lesser testing standards for its own personnel than for the mariners it regulates demonstrates a lower level of accountability to the public. The NTSB believes that Coast Guard personnel should be subject to the same standards for postaccident toxicological testing that merchant mariners are.

Therefore, the National Transportation Safety Board makes the following safety recommendations to the US Coast Guard:

Align your standards for postaccident toxicological testing of Coast Guard military personnel with the requirements specified in 46 *Code of Federal Regulations* 4.06-3. (M-12-8)

⁸ In accordance with Department of Transportation (DOT) Order 3910.1D, *Drug and Alcohol-Free Departmental Workplace Program*, Coast Guard civilian VTS personnel are in drug-only testing designated positions and are not to be alcohol tested. Although the Coast Guard is part of the Department of Homeland Security (DHS) since 2002, the Coast Guard still adheres to this DOT regulation because DHS has not developed a specific drug and alcohol policy for Coast Guard personnel. According to DOT Order 3910.1D, when a commanding officer determines that an incident meets the criteria for postaccident toxicological testing, drug-only testing should occur within 4 hours of the incident (or not more than 5 days after).

Align your standards for postaccident toxicological testing of Coast Guard civilian personnel, seeking appropriate legislative authority if necessary, with the requirements specified in 46 *Code of Federal Regulations* 4.06-3. (M-12-9)

Disseminate guidance within the Coast Guard so that commanding officers have unambiguous instruction detailing the requirements for timely drug and alcohol testing of Coast Guard military and civilian personnel whose work performance may be linked to a serious marine incident. (M-12-10)

These safety recommendations are derived from the NTSB's investigation and are consistent with the evidence we found and the analysis we performed. Chairman HERSMAN, Vice Chairman HART, and Members SUMWALT, ROSEKIND, and WEENER concurred in these recommendations.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate receiving a response from you within 90 days detailing the actions you have taken or intend to take to implement these recommendations. When responding, please refer to the safety recommendations by their recommendation number. We encourage you to submit your response electronically to correspondence@ntsb.gov. If it exceeds 10 megabytes, please e-mail us at the same address for instructions. To avoid confusion, please do not submit both an electronic copy and a hard copy of the same response.

[Original Signed]

By: Deborah A.P. Hersman
Chairman

Attachment 1: 46 CFR 4.06-3

Requirements for Alcohol and Drug Testing Following a Serious Marine Incident [for Merchant Mariners]

When a marine employer determines that a casualty or incident is, or is likely to become, an SMI, the marine employer must ensure that the following alcohol and drug testing is conducted:

(a) *Alcohol testing.* (1) Alcohol testing must be conducted on each individual engaged or employed on board the vessel who is directly involved in the SMI.

(i) The alcohol testing of each individual must be conducted within 2 hours of when the SMI occurred, unless precluded by safety concerns directly related to the incident.

(ii) If safety concerns directly related to the SMI prevent the alcohol testing from being conducted within 2 hours of the occurrence of the incident, then alcohol testing must be completed as soon as the safety concerns are addressed.

(iii) Alcohol testing is not required to be conducted more than 8 hours after the occurrence of the SMI.

(2) Alcohol-testing devices must be used according to the procedures specified by the manufacturer of the testing device and by this part.

(3) If the alcohol testing required in paragraphs (a)(1)(i) and (a)(1)(ii) of this section is not conducted, the marine employer must document on form CG-2692B the reason why the testing was not conducted.

(4) The marine employer may use alcohol-testing results from tests conducted by Coast Guard or local law enforcement personnel to satisfy the alcohol testing requirements of this part only if the alcohol testing meets all of the requirements of this part.

(b) *Drug testing.* (1) Drug testing must be conducted on each individual engaged or employed on board the vessel who is directly involved in the SMI.

(i) The collection of drug-test specimens of each individual must be conducted within 32 hours of when the SMI occurred, unless precluded by safety concerns directly related to the incident.

(ii) If safety concerns directly related to the SMI prevent the collection of drug-test specimens from being conducted within 32 hours of the occurrence of the incident, then the collection of drug-test specimens must be conducted as soon as the safety concerns are addressed.

(2) If the drug-test specimens required in paragraphs (b)(1)(i) and (b)(1)(ii) of this section were not collected, the marine employer must document on form CG-2692B the reason why the specimens were not collected.

Attachment 2: POSTACCIDENT DRUG AND ALCOHOL TESTING COMPARISON TABLE

	Merchant Mariners/ Individuals Directly Involved in a Serious Marine Incident	Coast Guard Military Personnel - Crewmen, and Safety Sensitive Positions (Search & Rescue, Vessel Traffic Service, Command and Operations Centers)	Coast Guard Civilian Personnel – Safety Sensitive Positions (Search & Rescue, Vessel Traffic Service, Command and Operations Centers)
Toxicological Test Governing Authority	<p>33 CFR Part 95 – <i>Operating a Vessel while Under the Influence of Alcohol or a Dangerous Drug</i></p> <p>46 CFR Part 4 – <i>Marine Casualties and Investigations</i></p> <p>46 CFR Part 16 – <i>Chemical Testing</i></p> <p>49 CFR Part 40 – <i>Procedures for Transportation Workplace Drug and Alcohol Testing Programs</i></p>	<p>COMDTINST M1000.10 of Sep-2011 – <i>Coast Guard Drug and Alcohol Abuse Program</i></p> <p>COMDTINST M5100.47 of Apr-1990 – <i>Safety and Environmental Health Manual, Chapter 3 Mishap Response, Investigation and Reporting</i> (updated with Change 8 dated 26-Nov-2002)</p>	<p>DOT Order 3910.1D dated 01-Oct-2010 – <i>Drug and Alcohol-Free Departmental Workplace Program</i></p> <p>COMDTINST M16630.3 dated 18-Aug-2009 – <i>Vessel Traffic Services National Standard Operating Procedures Manual (VTS NSOP)</i></p> <p>Executive Order 12564, <i>Drug-Free Federal Workplace</i>, of September 15, 1986.</p>
When Toxicological Testing is Required:	<p>46 CFR 4.03-2: Mandatory chemical testing following serious marine incidents (SMI) involving vessels in commercial service:</p> <p>One or more deaths;</p> <p>An injury requires professional medical treatment beyond first aid;</p> <p>Damage to property in excess of \$100,000;</p> <p>Actual or constructive total loss of an inspected vessel;</p> <p>Actual or constructive total loss of a self-propelled uninspected vessel >100 tons;</p> <p>Discharge of oil in excess of 10,000 gallon;</p> <p>Discharge of a reportable quantity of a hazardous substance.</p>	<p>COMDTINST M1000.10 h(1): Urine specimens, along with blood or breath specimens or both, will be collected from all personnel involved in a mishap;</p> <p>Enclosure (4) to COMDTINST M5100.47 paragraph 9: The Medical Officer is responsible blood and urine tests are required for all class A and B mishaps; and for class C and D mishaps if human physiological factors are suspected. Samples shall be taken from military members as soon as possible after the mishap:</p> <p>COMDTINST M5100.47 Chapter 3: Class A Mishap: Fatality or permanent disability; property damage over \$1,000,000; CG cutter is missing or abandoned, for which recovery is impossible or impractical, or is beyond economical repair; loss of CG small boat over \$50,000;</p>	<p>COMDTINST M16630.3: May be required when management determines an accident has occurred that qualifies for postaccident testing:</p> <p>A fatality;</p> <p>Injury requires professional medical treatment beyond first aid;</p> <p>Substantial damage to vessels or property in excess of \$100,000;</p> <p>Substantial damage to the environment, which shall include discharge of oil in excess of 10,000 gallons or</p> <p>Discharge of a reportable quantity of a hazardous substance.</p>

	Merchant Mariners/ Individuals Directly Involved in a Serious Marine Incident	Coast Guard Military Personnel - Crewmen, and Safety Sensitive Positions (Search & Rescue, Vessel Traffic Service, Command and Operations Centers)	Coast Guard Civilian Personnel – Safety Sensitive Positions (Search & Rescue, Vessel Traffic Service, Command and Operations Centers)
When Toxicological Testing is Required (cont'd):		<p>Class B Mishap: permanent partial disability; CG cutter damaged \$200,000-\$1,000,000; three or more personnel hospitalized; CG small boat repairable damage \$50,000 or more;</p> <p>Class C Mishap: loss of one day of work, or more than 30-days limited duty; CG cutter damage \$20,000-\$200,000; CG small boat repairable damage \$20,000-\$50,000; man overboard; other grounding, capsizing or rollover greater than 90 degrees;</p> <p>Class D Mishap: injury requiring more than simple first aid, or less than 30-days limited duty; property damage \$1,000-\$20,000; electrical shock or fire that does not meet the criteria of a higher classification; Near Miss/High Potential Event that results in minimal or no damage or personnel injury.</p>	
Postaccident Drug Test/Time:	<p>46 CFR 4.06-3: Within 32 hours, unless precluded by safety concerns directly related to the incident;</p> <p>Drug test specimens must be completed as soon as the safety concerns are addressed;</p> <p>If no specimen collection is made, or member refuses, an explanation must be noted on the CG 2692B.</p>	<p>COMDTINST M1000.10 h (1): Urine specimens will be collected from all personnel involved in a mishap;</p> <p>Enclosure (4) to COMDTINST M5100.47 paragraph 9: Samples shall be taken from military members as soon as possible after the mishap.</p>	<p>DOT Order 3910.1D: Within 4 hours;</p> <p>If not tested within 5 days, no further attempt to test;</p> <p>If not tested within the time, report to the Departmental Drug Office (DDO) must be submitted explaining why.</p>
Postaccident Drug Testing (initial and confirmatory analyses) for:	<p>49 CFR 40.85 and 40.87:</p> <ol style="list-style-type: none"> a. Marijuana metabolites <ul style="list-style-type: none"> • THCA b. Cocaine metabolites <ul style="list-style-type: none"> • Benzoyllecgonine 	<p>COMDTINST M1000.10 Exhibit 4.B.4:</p> <ol style="list-style-type: none"> 1. Marijuana 2. Cocaine 3. Codeine 4. Morphine 	<p>DOT Order 3910.1D Chapter VI paragraph 4:</p> <ol style="list-style-type: none"> i. Marijuana metabolites <ul style="list-style-type: none"> • THCA ii. Cocaine metabolites <ul style="list-style-type: none"> • Benzoyllecgonine

	Merchant Mariners/ Individuals Directly Involved in a Serious Marine Incident	Coast Guard Military Personnel - Crewmen, and Safety Sensitive Positions (Search & Rescue, Vessel Traffic Service, Command and Operations Centers)	Coast Guard Civilian Personnel – Safety Sensitive Positions (Search & Rescue, Vessel Traffic Service, Command and Operations Centers)
Postaccident Drug Testing (initial and confirmatory analytes) for (cont'd):	c. Opiate metabolites <ul style="list-style-type: none"> • Codeine • Morphine • Heroin d. Phencyclidine e. Amphetamines <ul style="list-style-type: none"> • AMP/MAMP • Methamphetamine (MDMA) <ul style="list-style-type: none"> • MDMA • MDA • MDEA 	5. Heroin 6. Phencyclidine 7. Amphetamines 8. Oxycodone	iii. Opiate metabolites <ul style="list-style-type: none"> • Codeine • Morphine iv. Heroin v. Phencyclidine vi. Amphetamines <ul style="list-style-type: none"> • AMP/MAMP vii. Methamphetamine (MDMA) <ul style="list-style-type: none"> • MDMA • MDA • MDEA
Postaccident Drug Test Method:	46 CFR 4.06-20(b): Urine	COMDTINST M1000.10 h(1): Urine and blood	DOT Order 3910.1D: Urine
Postaccident Alcohol Test/Time:	46 CFR 4.06-3: Within 2 hours, unless precluded by safety concerns directly related to the incident. Alcohol testing must be completed as soon as the safety concerns are addressed. If not tested within 8 hours, no further attempt to test should be made, an explanation must be noted on the CG 2692B.	COMDTINST M1000.10 h (1): Breath specimens will be collected from all personnel involved in a mishap; Per Enclosure (4) to COMDTINST M5100.47 paragraph 9: Samples shall be taken from military members as soon as possible after the mishap.	DOT Order 3910.1D: N/A – No authority to require alcohol testing.
Postaccident Alcohol Test for:	Blood Alcohol Content (BAC) limit of .04	No BAC limit	N/A – No authority to require alcohol testing.
Postaccident Alcohol Test Method:	46 CFR 4.06-20(a): Various approved test methods using blood, breath, or saliva. 33 CFR 95.020(b): BAC must not exceed .04.	Various methods using blood or breath specimens or both.	N/A – No authority to require alcohol testing.