



# National Transportation Safety Board

Washington, D.C. 20594

## Safety Recommendation

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**Date:** July 29, 2011

**In reply refer to:** M-11-8 through -12

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The National Transportation Safety Board (NTSB) investigation of the collision of a U.S. Coast Guard vessel with a recreational vessel in San Diego Bay, California, in December 2009, found that the Coast Guard vessel was operated at excessive speed and with inadequate regard for established safety considerations.<sup>1</sup> The coxswain and crew paid insufficient attention to darkness, high vessel density, and the effect of background lighting in determining operating speed, and crewmembers used personal cell phones while under way, thus distracting them from their role as lookouts.

The Coast Guard lacked effective oversight of its small boat operations both nationally and at Station San Diego. The NTSB found that coxswains were allowed too much latitude in selecting patrol speed, and the Coast Guard failed to ensure that its vessels' operating data were recorded, monitored, and reviewed. The NTSB also identified obstructions to forward visibility in the Coast Guard's special purpose craft – law enforcement (SPC-LE) vessels.

### Background

On Sunday, December 20, 2009, the 33-foot-long Coast Guard SPC-LE vessel *CG 33118* with five crewmembers on board collided with a 24-foot-long Sea Ray recreational vessel carrying 13 people in San Diego Bay, California. The collision occurred during the city's annual holiday boat parade, the Parade of Lights. As a result of the accident, an 8-year-old boy on board the Sea Ray was fatally injured and four other people on board sustained serious injuries. No *CG 33118* crewmembers were injured in the accident.

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<sup>1</sup> *Collision Between U.S. Coast Guard Vessel CG 33118 and Sea Ray Recreational Vessel CF 2607 PZ, San Diego Bay, California, December 20, 2009*, Marine Accident Report NTSB/MAR-11/03 (Washington, DC: National Transportation Safety Board, 2011), <<http://www.nts.gov/doclib/reports/2011/MAR1103.pdf>>.

The NTSB determined the probable cause of the collision was the failure of the *CG 33118* crew to see and avoid the Sea Ray because of the excessive speed at which the coxswain operated the *CG 33118*, given the prevailing darkness, background lighting, and high vessel density, and the U.S. Coast Guard's lack of effective oversight of its small boat operations both nationally and at Coast Guard Station San Diego.

### ***CG 33118* Operating Speed**

The speed of the *CG 33118* directly affected the amount of time in which the crewmembers could have detected, perceived, and acted to avoid the Sea Ray. In addition, vessel speed has a direct relationship to vessel damage or personal injury sustained in a collision with another vessel. The marine assistance radio broadcast to which the *CG 33118* was responding at the time was, by definition, not an emergency and no boaters were in distress. The NTSB's investigation concluded that the *CG 33118* was planing, that is, traveling at least 19 knots, at the time of the collision, considerably faster than a safe speed of 8 knots or lower under the prevailing conditions.

Vessel traffic density exacerbated the risk presented by the *CG 33118*'s high speed. Because of the holiday boat parade, considerably more vessels were on the bay on the night of the accident than virtually any other night of the year, and NTSB evidence indicates that the *CG 33118* coxswain and crew were aware of the heavy vessel density in the area.

In addition, Station San Diego Boat Piloting and Navigation Standards state that "special consideration must be given to the fact that background lights on shore will make the identification of vessel traffic more difficult, and Station San Diego coxswains said they were aware of the effects of the bay's background lighting on their ability to detect vessels at night. Investigators noted that extensive background lighting spanned the field of view of the *CG 33118* crew as they overtook the Sea Ray.

Operating at a slower speed would have compensated for these visual difficulties and increased the amount of time available to the *CG 33118* crew to detect, perceive, and take action to avoid the collision.

### **Coast Guard Operational Oversight**

The *CG 33118*'s speed on the evening of the accident exceeded Station San Diego's maximum recommended operating speed for SPC-LEs in San Diego Bay. While coxswains were permitted to exceed the 4200 rpm limit, or 35 knots, for operational necessity or hot pursuit, no operational need called for speeds as high as 42 knots that night, especially given the crowded, dark conditions that prevailed. Interviews with coxswains and crew indicated that they considered 4200 rpm to be a normal transit speed for the SPC-LE in the bay during the day and night. Station command appears to have accepted this speed as normal.

The 2002 NTSB investigation of a collision in Biscayne Bay, Florida, between a Coast Guard Station Miami Beach patrol boat and a small passenger vessel, the *Bayside Blaster*, determined that a Coast Guard coxswain was operating at an excessive speed, at night, and in an area subject

to background lighting. In both the Biscayne Bay and the San Diego accidents, Coast Guard station management was unaware of coxswains' excessive speeds for existing circumstances and conditions.

In the *Bayside Blaster* accident report, the NTSB commented, "Without some means of oversight, commanding officers cannot know that the speed limits are being followed or that other safety requirements are being met." The NTSB also concluded that the Coast Guard should "establish oversight procedures for use by commanding officers or officers-in-charge of Coast Guard stations to improve the safety of Coast Guard routine small boat operations." The NTSB added that oversight could be improved by regular direct observation of coxswain performance, and it issued Safety Recommendations M-02-25 and M-02-26 to address the shortcomings it identified.

The Coast Guard concurred with the NTSB recommendations. It revised its Boat Readiness and Standardization Program Manual requiring continuous evaluation of the readiness of boats and crews. It recommended that readiness and standardization evaluations include assessment of performance in team coordination, risk management, and crew briefing and debriefing as part of standard boat operations. It used Standardization (STAN) and Ready for Operations (RFO) evaluations to assess a unit's crew training program and underway exercise evaluation. As a result, the following year the NTSB classified both recommendations as "Closed—Acceptable Action."

On a January 2010 STAN assessment conducted shortly after the accident, Station San Diego SPC-LE coxswains averaged a score of 58.6 percent on the navigation rules portion of the written test. Coxswains on the station's other small boat also performed poorly on this section, averaging 62.5 percent. Investigators requested documentation of actions taken in response to these findings but found none. Lack of remedial action does not indicate responsible oversight.

In sum, the investigation uncovered several areas in which Coast Guard Station San Diego oversight was deficient: the speed at which the *CG 33118* was operated on the night of the accident, the speeds at which SPC-LE vessels were routinely being operated at night, the failure of the *CG 33118* crewmembers to speak up regarding the vessel's speed, the limitations of RFO and STAN team evaluations, the lack of follow-up on STAN assessments, and the failure to monitor small boat operational data. Moreover, the NTSB is concerned that other Coast Guard small boat stations may also be unaware of the manner in which small boats are being operated and may lack speed restrictions for routine patrols in their areas of responsibility.

Shortly after the *Bayside Blaster* accident, the Coast Guard updated its safety policies<sup>2</sup> to require commanding officers of Coast Guard stations to establish speed limits in specific locations in their areas of responsibility "that pose significant or environmental risk to boats." In hindsight, the evidence suggests that the actions the Coast Guard took after that accident failed to result in the policies needed to ensure the safety of its vessel operations.

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<sup>2</sup> Commandant Instruction (COMDTINST) 3530.2C, Coast Guard Navigation Standards Manual.

## **SPC-LE Forward Visibility**

The NTSB examined the forward visibility of the SPC-LE to identify obstructions for the two *CG 33118* crewmembers in the forward seats, the operating conditions under which these obstructions were present, and the effects of these obstructions on the ability of the two crewmembers to see the *Sea Ray*. Investigators concluded that the *CG 33118* coxswain should have been able to see at least a portion of the *Sea Ray* at some point before the collision. Further, slowing to less than 8 knots, changing their eye positions, or both to suit operational circumstances could have mitigated these obstructions.

## **Automatic Identification System Use**

This investigation was hampered by the absence of exact speed, heading, and position data on the *CG 33118* at critical points during the transit. Although the *CG 33118* was equipped with an automatic identification system (AIS), which would have provided this information, no AIS data were available. Investigators suggested possible reasons why the data were not recorded: crewmembers did not activate the unit; they activated the unit in a mode that did not transmit; or the AIS unit was not functioning properly at the time of the accident. However, the reason for the failure to record AIS data at the Joint Harbor Operations Center (JHOC) could not be determined. Investigators learned that no procedures were in place to ensure that the coxswain activated the AIS or that the AIS was actually transmitting. This failure resulted in the loss of important vessel data from the *CG 33118*.

## **Cell Phone Use**

At the time of the accident, no Coast Guard policy governed the use of cell phones and similar portable electronic devices by its crewmembers during vessel operations. However, all crewmembers were responsible for performing lookout duties during small boat operations, according to the Coast Guard's Boat Crew Seamanship Manual.<sup>3</sup> Coast Guard crewmembers also were trained to voice safety concerns or "speak up" if they noted an unsafe condition, such as operating at an unsafe speed or in an area of high vessel traffic density. Yet, crewmembers using personal electronic devices while under way would be distracted from performing these duties.

As noted, the NTSB obtained records from the *CG 33118* crewmembers' cell phone service providers and determined that activity was recorded for the coxswain, the boatswain, and the officer of the day (activity could not be determined for the engineer). The NTSB was troubled to learn that this activity included sending text messages approximately 15 minutes before the collision. This personal cell phone use, the NTSB determined, distracted these crewmembers from their responsibility of serving as lookouts.

Nonetheless, based on this accident and the collision of *CG 25689* with the small passenger vessel *Thriller 09* in Charleston, South Carolina, the NTSB issued Safety Recommendation M-10-2 to the Coast Guard urging it to develop and implement policy to address the use of cell phones and other wireless devices by its crewmembers during vessel operations. The Coast Guard

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<sup>3</sup> See section 1.12.5, Lookout Procedures.

responded positively by issuing a policy restricting crew cell phone use during operation of its vessels to purposes related to those operations.

Based on this investigation and analysis, the National Transportation Safety Board therefore makes the following safety recommendations to the U.S. Coast Guard:

Develop and implement procedures for your special purpose craft – law enforcement that allow crewmembers to compensate for obstructions affecting forward visibility from the helm and the forward port positions. (M-11-8)

Examine your oversight of small boat operations to determine where local procedures are inadequate, implement procedures nationally and at each station (including Station San Diego) to provide continual, systematic, and thorough oversight information, and require action on information obtained to ensure that crewmembers are operating their vessels safely in all conditions and circumstances. (M-11-9)

Require each small boat station, including Station San Diego, to establish specific operating procedures governing small boat speeds that account for prevailing conditions and circumstances affecting the safety of small boat operations. (M-11-10)

Develop and implement procedures to ensure that your coxswains follow established automatic identification system transmission policies. (M-11-11)

Establish a structured data monitoring program for your small boats that reviews all available data sources to identify deviation from established guidance and procedures. (M-11-12)

In response to the recommendations in this letter, please refer to Safety Recommendations M-11-8 through M-11-12. 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](mailto: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).

Chairman HERSMAN, Vice Chairman HART, and Members SUMWALT, ROSEKIND, and WEENER concurred in these recommendations.

*[Original Signed]*

By: Deborah A.P. Hersman  
Chairman