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SUBCOMMITTEE ON COAST GUARD AND MARITIME TRANSPORTATION

U.S. HOUSE OF REPRESENTATIVES

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Good morning, Chairman Cummings and members of the Subcommittee. I am Anne Richards, Assistant Inspector General for Audits for the Department of Homeland Security. Thank you for the opportunity to discuss the Coast Guard's management of the marine casualty investigations program.

I would first like to express our appreciation to the Coast Guard Headquarters Office of Budget and Programs, as well as the staff assigned to the marine casualty investigation program for their timely and thorough responses to my staff's requests for information and documentation.

At the joint request of the Committee on Transportation and Infrastructure of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate we recently completed an audit on the Coast Guard's management of the marine casualty investigation program. The Committees requested that we determine the extent to which marine casualty investigations and reports result in information and recommendations that can prevent or minimize the effect of similar casualties. Our report responding to these Congressional concerns is being issued today and will be available on our website.

My testimony will address three areas of concern identified during our review and presented in our report. They are:

1. The training, experience, and qualifications of marine casualty investigators;
2. The level of marine casualty investigations conducted by the Coast Guard; and
3. The Coast Guard's process for reviewing and closing its backlog of marine casualty investigations.

Training, Experience, and Qualifications of Marine Casualty Investigators

The Coast Guard's June 1988 marine casualty investigation standard required a combination of experience, investigative tasks, and training for an investigator to be qualified. Specifically, to be considered prequalified for the marine casualty investigations program, personnel had to have experience as a Hull or Machinery, and Small Vessel Inspector; or be trained in port operations as a Boarding Officer, Facility Inspector, and Harbor Safety Officer.

The 1988 standard also required that personnel satisfactorily complete specific investigative tasks including: (1) initiating a marine casualty investigation, (2) conducting a marine casualty investigation, (3) preparing a written investigative report, (4) preparing marine investigation products, (5) conducting a boating accident investigation, and (6) ensuring Privacy Act and Freedom of Information Act requirements are maintained during and after the investigation. In addition, personnel were to satisfactorily complete the Basic Marine Investigator Training Course. Once these tasks and training were completed, the commanding officer certified that the qualification standards had been met.

Seven of 22 investigators sampled met the prequalification standards by either fulfilling all Port Operations requirements or through a combination of inspector qualifications. The

remaining 15 marine casualty investigators reviewed were not qualified under the 1988 standard. Of particular concern were four investigators who did not meet any of the requisite training, experience, or qualification requirements, and they did not attend the Basic Marine Investigator Course.

Coast Guard Sector personnel also did not always follow the 1988 standard, but rather developed their own local standards for determining who was prequalified and qualified to be a marine casualty investigator. For example, Sector Hampton Roads marine casualty investigators did not use the 1988 standard, but developed and used a training and qualifications program checklist that required knowledge of local industry, waterways, and jurisdictions, as well as interviewing techniques, MISLE (data system used to manage marine casualties), and chemical testing. Additionally, Sector New York did not use the 1988 standard, but instead developed a training and qualifications program checklist based on the one used in Sector Hampton Roads. Such diverse application of the 1988 standard contributed to inconsistency in investigator qualifications across the Coast Guard.

In August 2007, the Coast Guard issued a revised standard, which both improved and detracted from the qualifications for marine casualty investigators. The Coast Guard improved the standards by updating the tasks that an investigator must perform to qualify for the position. These tasks include preparing for an investigation, initiating an investigation, generating an incident timeline, conducting causal analysis, conducting human error analysis, drawing and recording conclusions, developing safety recommendations/alerts, recommending enforcement actions, and completing the Basic Marine Investigator Training Course.

However, the August 2007 standard also removed the prequalification requirement as a Hull or Machinery and Small Vessel Inspector, which, in essence, lowered the standard. Coast Guard personnel stated that knowledge in these specialty areas is essential to the ability of investigators to correctly identify the causes of marine casualties and issue appropriate safety alerts and recommendations. In our opinion, removing this prequalification standard may negatively affect the qualifications and capabilities of Coast Guard marine casualty investigators.

The Coast Guard claims that the removal of this prequalification requirement does not lower investigator standards because the Basic Marine Investigator Training Course has Hull, Machinery, or Small Vessel inspector as a prerequisite for attendance. There are two problems with this rationale. First, of the 22 investigators we reviewed, 15 attended the Basic Marine Investigator Training Course, of which 5 did not meet any of the training course prerequisites, including both the Marine Inspector and the Port Operations qualifications. Second, the June 1988 standard required a prequalification of a Hull **or** Machinery and Small Vessel Inspector, while the Basic Course requires Hull, Machinery or Small Vessel qualification.

Management Controls to Ensure Qualified Investigators

The investigator qualification issues that we identified can be attributed to competing Coast Guard priorities and a limited number of experienced personnel, making it difficult to ensure

that all investigator positions are filled with qualified staff. Specifically, Coast Guard Headquarters assignment officials select personnel to fill sector investigator positions from a pool of available candidates. Because the marine casualty specialty is not viewed as important or as exciting as other mission areas, there are a limited number of candidates interested in marine casualty investigation from which to draw.

The Coast Guard has not established a clear and desirable career path for investigators, which can further impede recruitment efforts. At the Sectors, commanders have the discretion to assign experienced and qualified investigators to meet higher priority mission needs, leaving less trained and qualified personnel to perform investigative duties. Given competing mission demands, there is no assurance that an investigator will perform investigative work. Instead, investigators may be called upon to work in areas such as inspections or facilities, outside of their specialty area. For example, a tour in the Prevention Directorate could mean yearly rotations across specialty areas, such as waterways management, and drug and alcohol testing. Given the lack of a career path and the unpredictable nature of investigation assignments, potential Coast Guard candidates also may not want to become investigators. Hull and Machinery Inspectors told us that promotion to the position of marine casualty investigator would not advance their careers.

Additionally, according to Coast Guard personnel, tour of duty rotations hinder investigators from acquiring the experience needed for career development. The agency's uniformed investigators generally are not in their positions for more than a single, 3-year tour of duty in the same location. The forced rotations preclude the investigators from acquiring the extensive knowledge of local waterways and industries that experienced casualty investigators have told us is needed to be effective.

In contrast, civilian marine casualty investigators are not subject to the 3-year tour of duty rotation standard. Over time, they can gain a greater knowledge of specialties such as local waterways and industries or experience in enforcing maritime regulations to enhance their qualifications. In Fiscal Year 2007, the Coast Guard reported there were only six civilians serving as full time marine casualty investigators.

Unqualified marine casualty investigators are not a new issue to the Coast Guard. Coast Guard studies in the mid-1990s of various aspects of the marine casualty program also identified problems with marine casualty investigator qualifications:

- The Coast Guard Research and Development Center report, *U.S. Coast Guard Marine Casualty Investigation and Reporting: Analysis and Recommendations for Improvement*, August 1994, included recommendations for organizational change, such as encouraging specialization in investigations and using civilian investigators to help increase the numbers and qualifications of marine casualty investigators.
- The Coast Guard's *Report on the Quality Action Team on Marine Safety Investigation*, January 1995, included recommendations for maximizing staff use and updating the marine casualty investigation process.

The Coast Guard has implemented a number of these study recommendations, resulting in improvements to the program. For example, as defined in the G-MOA Policy Letter 1-00, the Coast Guard instituted the levels of investigation. In addition, the Coast Guard now requires investigators to complete causal analysis training. However, the Coast Guard has not focused on addressing recommendations related to investigator qualifications. Until it does, unqualified personnel may continue to conduct marine casualty investigations, inhibiting the ability of the Coast Guard to identify causes and make appropriate recommendations for preventing or minimizing similar casualties.

Level of Marine Casualty Investigations Conducted by the Coast Guard

The Coast Guard conducts investigations commensurate with severity of the incident and value to marine safety. An accident involving two or more deaths, for example, would undergo a formal investigation. The levels of marine casualty investigations are as follows:

- Preliminary investigations are initial investigative efforts of casualties to determine whether to assign a case as a data collection activity, an informal investigation, or a formal investigation, depending on the severity and value to marine safety.
- Data collection activity investigations do not require any significant investigative effort, and usually consist only of collecting basic factual information and entering it into the Coast Guard's MISLE database for future reference and analysis. Only minimum followup to verify accuracy and completeness of the data collected should be conducted, as necessary.
- Informal investigations are less exhaustive than formal investigations, but include the determination and reporting on the causes of a casualty. At the time of our audit, this was the minimum level of investigative effort required to initiate enforcement actions. The Coast Guard has since eliminated this requirement. Some of the criteria for an informal investigation include casualties in which property damage exceeds \$100,000 but is less than \$1 million, any collision or allision resulting in property damage exceeding \$25,000, and a medium discharge of oil, i.e., between 1,000 and 10,000 gallons to inland waterways and between 10,000 and 100,000 gallons to coastal waters.
- Formal investigations are reserved for the more serious or significant incidents in which the most investigative value can be gained. Some of the criteria for conducting a formal investigation include two or more deaths, property damage exceeding \$1 million, and a major discharge of oil, i.e., more than 10,000 gallons to inland waterways and over 100,000 gallons to coastal waters.

Between January 1, 2003, and October 31, 2006, 15,327 marine casualties were reported to the Coast Guard of which 1,066 (7%) were investigated at the "Informal" or "Formal" activity level. During this same period, the Coast Guard issued 396 recommendations to mariners, industry, and to other Coast Guard components, and issued safety alerts for general operations, cargo operations, engineering, navigation equipment, safety equipment, and local waterways and industries.

Table 1 summarizes the number and level of marine casualty investigations conducted during our audit period.

Table 1: Investigations of Marine Casualties That Occurred During the Period January 1, 2003, Through October 31, 2006						
Level of Investigation	2003	2004	2005	Through October 31, 2006	Total Investigations	% of Investigative Effort
Preliminary	201	69	44	0	314	2
Data Collection Activity	3,529	3,623	3,617	3,178	13,947	91
Informal	311	166	184	392	1,053	7
Formal	2	2	4	5	13	0
Grand Totals	4,043	3,860	3,849	3,575	15,327	100

Table 2 is an extract from the Coast Guard’s MISLE database outlining the types and property damage costs of marine casualties. The large increase in property damage costs in 2005 was primarily due to Hurricane Katrina.

Table 2: Types of Marine Casualties That Occurred During the Period January 1, 2003, Through October 31, 2006 (\$ in millions)				
Type of Casualty	2003	2004	2005	Through October 31, 2006
Number of Injured	850	733	684	859
Number of Missing	16	34	18	11
Number of Deaths	190	175	169	158
Number of Damaged Vessels	1,791	1,771	1,661	1,494
Total Property Damage	\$194	\$215	\$810	\$109

Due to the September 11, 2001, terrorist attacks and to promote consistency and free staff resources for other duties, the Coast Guard permitted formal marine casualty investigations to be conducted at the informal level, not to be downgraded further, and informal investigations to be conducted at the data collection activity level, not to be downgraded further. This initiative became known within the Coast Guard as the “9/11 downgrade.”

In September 2002, the Coast Guard issued G-MOA Policy Letter 2-02 that superseded the “9/11 downgrade” and returned the investigative levels to the pre-September 11, 2001 levels. However, the Coast Guard Headquarters did not effectively communicate to the Sectors that the “9/11 downgrade” was rescinded. Some Sectors did not stop the “9/11 downgrade” until mid-2006, 4 years later.

Our review of marine casualty investigations from five Coast Guard locations throughout the United States showed that 53% of the investigations in our samples were conducted at a lower level than recommended by Coast Guard guidance. For example, the Coast Guard conducted eight investigations at the data collection activity level, two levels below the

formal level needed. See Table 3 below for a summary of marine casualty investigations tested. The Sector commands have the leeway to conduct investigations at other than the recommended level. However, to maintain control over the program, the Sector commands should document departures from Coast Guard guidance.

As summarized in Table 3, 48 marine casualty investigations were conducted at the incorrect level pursuant to the “9/11 downgrade.”

Table 3: Summary Judgmental Samples of Marine Casualty Investigations								
Sample Size (All Locations)	Number of Locations Tested	Sample Type	Improper Downgrades				Total Incorrect Level	% of Error
			Preliminary That Should Have Been Data Collection Activity	Data Collection Activity That Should Have Been Informal	Data Collection Activity That Should Have Been Formal	Informal That Should Have Been Formal		
145	5	Not stopping 9/11 downgrade	0	40	6	2	48	33
		All other	1	23	2	3	29	20
		Totals	1	63	8	5	77	53

We also analyzed an extract from the Coast Guard’s MISLE database of 15,327 marine casualties that occurred during the period of January 1, 2003, through October 31, 2006. Using the Coast Guard’s G-MOA Policy Letter 2-02 as guidance, and based on the extracted data, we identified:

- 134 marine casualties that should have been investigated at the formal level but were not, including 55 conducted two levels below at the data collection activity level;
- 952 marine casualties that should have been investigated at the informal level, but were not;
- 169 marine casualties that should have been investigated at the data collection activity level or higher, but were not.

These investigations were conducted at improper levels for varying reasons. For example, some Coast Guard Sectors did stop the “9/11 downgrade” until mid-2006 because of a lack of clear communication from Coast Guard Headquarters regarding issuance of the G-MOA Policy Letter 2-02. Per Coast Guard officials, there were also conflicting interpretations of how to apply the Coast Guard’s G-MOA Policy Letter 2-02. For example, according to the policy letter, loss of propulsion should be investigated at the informal level. However, some marine casualty investigators defined loss of propulsion as lost propulsion from one engine even though there might be multiple engines, whereas others defined loss of propulsion as when a vessel cannot remain underway.

Further, some marine casualty investigators relied on the Coast Guard's outdated February 1989 *Marine Safety Manual* for investigation guidance, which also created confusion. On April 24, 2008, the Coast Guard promulgated an updated edition of the *Marine Safety Manual*.

As a result of formal and informal investigations conducted at the lower data collection activity level, causal factors were not always determined. Without such determinations, the Coast Guard may have lost the opportunity to issue safety recommendations or alerts to prevent or minimize the effect of similar casualties occurring again.

Backlog of Marine Casualty Investigations to Review and Close

Coast Guard Headquarters is not timely in reviewing or closing marine casualty investigation reports. On November 9, 2006, Coast Guard Headquarters had a backlog of 4,240 investigations, of which 2,466 (58%) were open and had been awaiting review and closure for more than 6 months. One Coast Guard Headquarters staff member was responsible for reviewing and closing all of the investigations. This staff member estimated that, at best, they could devote 50% of their time to this function. In our opinion, this significant workload is too much for one person and contributes even further to creating a backlog in marine casualty investigations.

To reduce the backlog, the Coast Guard resorted to a mass closure of investigations without thorough review. On September 29, 2006, Coast Guard Headquarters closed 3,848 investigations that it deemed "low risk" based on the criteria that the casualty:

- Occurred in calendar years 2002-2004;
- Involved no fatalities or missing persons;
- Involved injuries to fewer than six persons;
- Involved total dollar damages of less than \$250,000;
- Involved less than 100 gallons of oil spilled; and
- Involved no total losses of vessels.

Included in the September 29, 2006, closure project were 194 informal investigations and 1 formal investigation. Although the Coast Guard deemed them low risk, we identified the investigations as high risk because they involved serious incidents requiring complete causal analysis. Enforcement actions also may have resulted from these investigations.

Further, closing investigations at incorrect levels and without thorough review resulted in lost opportunities to identify errors input to the MISLE database. The MISLE data can support trend analysis and studies that may result in recommendations and safety alerts. Likely, no one will go back to check for errors or make corrections to those included in the mass closure project. In our testing of 145 marine casualty investigations, we identified 43 (30%) that contained at least one MISLE data error. The Coast Guard corrected the errors, such as incident dates, numbers of people at risk, and levels of investigation, that we brought to their attention. With a thorough review at headquarters, the number of errors could be further

reduced. Assigning more staff to manage the investigation review and closure process would also help.

The Coast Guard has recognized the weaknesses in the marine casualty investigation program and is moving to strengthen it. In September 2007, the Coast Guard issued a plan entitled "Enhancing the Coast Guard Marine Safety Program." As noted in the plan, the Coast Guard will be moving to improve the consistency of marine inspections and investigations by increasing the number of civilian inspectors and investigators and by strengthening the Marine Safety Career path.

Mr. Chairman, members of the Committee, this concludes my prepared statement. I will be pleased to answer any questions you may have.

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