

**AUDIT OF  
THE SMALL BOAT STATION  
SEARCH AND RESCUE PROGRAM**

***United States Coast Guard***

***Report Number: MH-2001-094  
Date Issued: September 14, 2001***



# Memorandum

**U.S. Department of  
Transportation**  
Office of the Secretary  
of Transportation  
Office of Inspector General

Subject: **ACTION:** Report on Audit of the Small  
Boat Station Search and Rescue Program  
United States Coast Guard  
MH-2001-094

Date: September 14, 2001

From: Alexis M. Stefani   
Assistant Inspector General for Auditing

Reply To  
Attn. Of: JA-40

To: Commandant  
United States Coast Guard

This report presents the results of our audit of the United States Coast Guard's (Coast Guard) Search and Rescue (SAR) Program. The audit was conducted in response to congressional direction contained in the Conference Report accompanying the Department of Transportation's Fiscal Year 2001 Appropriations Act. Our objectives were to review the readiness of the Coast Guard's SAR Program by determining the status, historical trends, and plans for SAR Program staffing, training, equipment, and funding. At the request of Committee staff, this report focuses on the SAR missions and activities conducted by SAR small boat stations (SAR stations).

The draft report was provided to the Coast Guard on July 6, 2001. OIG staff subsequently met with Coast Guard officials on two occasions to discuss the draft report's findings and recommendation. In its July 30, 2001, written response to the draft report, Coast Guard concurred with the recommendation. Coast Guard's response also included comments to clarify what it considered to be misunderstandings and incorrect impressions in the draft report. We modified the report to reflect Coast Guard's comments. Coast Guard's comments and our analysis are included in the Appendix to this report.

Coast Guard concurred with the recommendation to develop and implement a strategic plan for improving SAR station readiness, but did not provide a target date for completing the plan. Therefore, we request that within 30 days, Coast Guard provide an estimated date for completing action on the recommendation.

We appreciate the courtesies and cooperation of the Coast Guard's representatives during this review. If I can answer any questions concerning the report, please call me at (202) 366-1992 or Thomas J. Howard, Deputy Assistant Inspector General for Maritime and Highway Safety Programs, at (202) 366-5630.

Attachment

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# EXECUTIVE SUMMARY

## *Audit of the Small Boat Station Search and Rescue Program United States Coast Guard*

MH-2001-094

September 14, 2001

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### INTRODUCTION

This report presents the results of our audit of the United States Coast Guard's (Coast Guard) Search and Rescue (SAR) Program. The audit was conducted in response to congressional direction contained in the Conference Report accompanying the Department of Transportation's Fiscal Year 2001 Appropriations Act.<sup>1</sup> Our objectives were to review the readiness of the Coast Guard's SAR Program by determining the status, historical trends, and plans for SAR Program staffing, training, equipment, and funding. At the request of Committee staff, this report focuses on the SAR missions and activities conducted by SAR small boat stations (SAR stations). Additional information on our scope and methodology can be found in Exhibit A.

### BACKGROUND

The Coast Guard's network of SAR stations provides emergency response to mariners in distress. The primary surface response is provided by 188 SAR stations located along more than 95,000 miles of U.S. coastline. These SAR stations are authorized 4,049 personnel operating a fleet of 554 rescue boats. During fiscal year (FY) 2000, SAR stations responded to 40,068 calls for help from recreational boaters and mariners in distress. These responses assisted 54,368 people and saved 3,365 lives. More than 90 percent of all offshore SAR missions occur between 0 and 10 nautical miles of the U.S. coastline.

SAR station personnel also perform a variety of non-SAR missions including law enforcement, recreational boating safety, and marine environmental protection. The SAR Program constitutes about \$443 million or 12.3 percent of Coast Guard's FY 2001 total operating and acquisition, construction, and improvements budgets, a decrease from 15.4 percent in FY 1991.

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<sup>1</sup> House of Representatives Report 106-940, page 68.

More than 78 million Americans boarded recreational vessels during FY 1998, a population forecast to increase 65 percent to 129 million by 2020. Between FY 1996 and FY 2000, 3,870 people died in marine-related accidents. A string of high visibility SAR missions that went awry over the past decade, which resulted in the deaths of 5 Coast Guardsmen, highlights the inherent safety hazards associated with SAR operations.<sup>2</sup>

## RESULTS IN BRIEF

The readiness of the Coast Guard's SAR stations continues to deteriorate. Since 1989, Coast Guard studies have identified serious staffing, training, and equipment problems in the SAR Program. Coast Guard has yet to implement many of the studies' recommendations. Our basic findings are:

- staff shortages require boat crews at 90 percent of the SAR stations to work an average of 84 hours per week,
- over the last 5 years, the ratio of trainer to trainee has declined from 5.5 to 1 to 1.5 to 1 increasing the on-the-job training workload for experienced staff and diminishing the overall quality of on-the-job training,
- there is no formal entry-level training for boatswain's mates, who are key SAR staff and comprise one of the largest of the Coast Guard's enlisted job specialties,
- 84 percent of the standard rescue boat fleet inspected by the Coast Guard in FY 2000 were found "*Not Ready for Sea*" for reasons that were often corrected within two days of the initial inspection,
- Coast Guard has not requested funding to either replace or extend the useful life of its 41-foot utility boat fleet, which is reaching the end of its service life, and
- SAR stations operate 293 non-standard boats that are not required to undergo regularly scheduled, formal, readiness inspections.

Recently, Coast Guard began addressing some of these problems. During FY 2001, Coast Guard increased staffing levels at selected stations, increased the budget supporting its 47-foot motor lifeboat fleet, and is expanding training opportunities for station boatswain's mates. While these actions are steps in the right direction, significant additional Coast Guard actions are needed to fully rebuild SAR station readiness.

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<sup>2</sup> *Sea King* (NTSB/MAR-92/05), *Duke Luedtke* (NTSB/MAR-96/01/SUM), and *Station Quillayute River* (Coast Guard Decision letter dated April 21, 1997).

We recommend that Coast Guard develop and implement a strategic plan to improve SAR station readiness. The plan should provide a clear framework for rebuilding the SAR program by describing specific actions, establishing timeframes for completing those actions, identifying organizations and personnel responsible for the actions, and estimating implementation costs.

In its July 30, 2001, comments to the draft report, Coast Guard concurred with the recommendation to develop a strategic plan for restoring SAR readiness. Coast Guard's response also included comments to clarify what it considered to be misunderstandings and incorrect impressions in the draft report. We modified the report to reflect Coast Guard's comments. Coast Guard also suggested some wording changes in the areas that should be addressed in the strategic plan. These changes were consistent with the intent of our recommendation so we revised the areas as suggested. We are asking Coast Guard to provide a target date for completion of the strategic plan within 30 days.

## **PRINCIPAL FINDINGS**

### Staff Shortages Require SAR Station Personnel to Work Long Hours

Ninety percent of the 188 SAR stations operate with staffing levels so low that boat crews must work an average of 84 hours weekly to maintain station readiness. This is due to a lack of station billets as well as billets that either are vacant or are filled with personnel lacking the requisite training and experience to perform their assigned duties. Our analysis of staff levels at 55 stations during FY 2000 showed that of the 1,431 personnel authorized for these stations, 454 (32 percent) of the positions were either vacant (169 positions) or filled by personnel not certified for small boat duty (285 positions). Twelve of the 55 stations had less than 60 percent of the authorized staff level available to perform SAR missions.

Also, the 84-hour workweeks violate Coast Guard's 68-hour workweek standard, which was established to limit fatigue and stress among station personnel. Since FY 1998, rescue boat accidents have increased by 225 percent. Coast Guard's analysis of FY 2000 accidents showed that 56 percent of the accidents occurred as a result of poor judgment and navigation and operator error and, therefore, were preventable.

In its response to the draft report, Coast Guard commented that presently, there are almost no empty positions at SAR stations, and "extra" personnel at some stations. Our draft report recognized that Coast Guard has increased staffing at some stations. However, the increased staffing levels will not, by itself, immediately increase the number of trained and certified personnel at the stations, which was the larger problem identified in our analysis. In concurring with our recommendation, Coast Guard stated that it is developing new operating and

staffing methodologies that will provide for a reduced duty week, better development of skills, improved retention of experienced people, and better utilization of training investment.

#### Experience Level of SAR Station Personnel Has Declined

Since January 1996, the number of senior level personnel (E-4 to E-9) at SAR stations has decreased by 21 percent while the number of inexperienced personnel (E-1 to E-3) has increased by 194 percent. In its July 30, 2001, response to a draft of the report, Coast Guard acknowledged that it has and continues to experience a service-wide decline in experience in certain billet levels and specialties.

Maintaining an appropriate number of senior level personnel is vitally important to the SAR Program because Coast Guard relies on experienced personnel to provide on-the-job training to all new SAR station personnel. Over the last 5 years, the ratio of trainer to trainee has declined from 5.5 to 1 to 1.5 to 1. A declining trainer to trainee ratio increases workload for experienced staff and diminishes the overall quality of on-the-job training at SAR stations. Providing on-the-job training is a continuing burden to experienced station personnel.

#### Boatswain's Mates Lack Formal Entry-Level Training

Boatswain's mates represent one of the largest of the Coast Guard's enlisted job specialties. However, no formal entry-level school exists for active duty boatswain's mates. This is in sharp contrast to other enlisted job specialties. Coast Guard provides 12 weeks of formal entry-level classroom training to become a public affairs specialist and 11.5 weeks of classroom training to become a food service specialist. Boot camp graduates generally qualify as boatswain's mates through 8 to 18 months of on-the-job training.

More than 70 percent of the vacant positions at small boat stations are filled with Coast Guard boot camp (basic training) graduates. These graduates received little training in seamanship and water survival techniques and no training in small boat handling, SAR techniques, and piloting and navigation, prior to reporting to a SAR station. These skills are learned through an on-the-job training program conducted by senior station staff.

Coast Guard evaluations indicate knowledge gaps for SAR station personnel. Thirty-two percent of 572 utility boat coxswains tested during FYs 1999 and 2000 averaged 69 percent or less on all 5 sections of a written examination. Twenty-eight percent of the senior utility boat coxswains (chief boatswain's mate and boatswain's mates first and second class), who provide the bulk of the on-the-job training to newly arriving station personnel, scored 69 percent or less on the examination.

In its response to the draft report, Coast Guard stated that although its on-the-job training regime was a formal process with specific performance requirements, it has re-instituted an entry-level boatswain's mate school to help accelerate the training and qualification process. Coast Guard noted that it will continue to evaluate the utility of the on-the-job training program versus the cost and quality of formal entry-level classroom training for the remainder of its boatswain's mate training needs.

Standard Rescue Boat Fleet "Not Ready for Sea"

Despite months of advance notice of upcoming inspections, 100 (84 percent) of 119 SAR boats inspected by Coast Guard during FY 2000 were found to warrant a "Not Ready for Sea" evaluation. The "Not Ready for Sea" evaluation means Coast Guard inspectors identified mechanical, structural, or safety deficiencies serious enough to render the boat not fully capable of performing SAR missions.

Inspection results show that Coast Guard's new 47-foot motor lifeboats, which are all less than 5 years old; its 44-foot motor lifeboats, which are all more than 28 years old; and its aging 41-foot utility boats, of which 92 percent are more than 20 years old, are failing to meet Coast Guard readiness standards. The following table contains the inspection results for FY 1999, the last year for which boat-specific data were available.

**Breakdown of Rescue Boats Found "Not Ready for Sea" During FY 1999**

Boat Type	Age of Boat (Years)	Percentage Found "Not Ready for Sea"
47-Foot Motor Lifeboat	0 to 4	90
44-Foot Motor Lifeboat	29 to 38	100
41-Foot Utility Boat	18 to 28	99

In making a determination that rescue boats were "Not Ready for Sea", Coast Guard inspectors identified the lack of watertight integrity as a major problem. Watertight closures failed to completely seal on 79 percent of the motor lifeboats inspected during FY 2000. This is a significant problem because motor lifeboats are designed to roll over and self-right in heavy surf. The proper operation of watertight seals is needed to ensure survival of the boats and their crews when operating in heavy sea conditions.



47-Foot Motor Lifeboat Rolling Over in Heavy Surf

Coast Guard commented that they are considering design improvements and engineering modifications to help eliminate issues with the watertight closures on the 47-foot motor lifeboat.

In its response, Coast Guard commented that the 84 percent “*Not Fully Mission Capable*” rate drops to less than 5 percent before the inspection teams leave the stations. (Coast Guard changed the term “*Not Ready for Sea*” to “*Not Fully Mission Capable*” in 2000.) According to the Coast Guard, this shows the problems were not as serious as our report indicates. Coast Guard also suggested the high failure rate may say more about zealous enforcement of technical standards than the practical assessment of mission readiness. The 84 percent statistic, however, is based on data from inspections conducted by some of Coast Guard’s most experienced small boat personnel using Coast Guard’s own inspection standards. The contrast between what the experienced personnel find and are able to quickly correct supports our finding that SAR stations lack personnel with the requisite training and experience needed to identify and correct boat deficiencies.

#### Utility Boat Fleet Reaching the End of Its Service Life

Coast Guard's fleet of 168 utility boats, which comprise 64 percent of the SAR station standard boat fleet, has been in operation over 18 years and is reaching the end of its service life. Coast Guard estimates the utility boats have an average of 3 years of engine life and 8 years of hull life remaining. In addition, failure of structural and mechanical components (cracks in the hull and superstructure, and aging and obsolete propulsion and steering systems), coupled with a scarcity of spare parts (Coast Guard is fabricating parts to keep some of these vessels operating), make the utility boat fleet increasingly difficult and expensive to maintain.

Coast Guard commented that they have a more detailed evaluation underway to determine action needed to keep the 41-foot utility boat operational and will address its plans to replace the 41-foot utility boat as part of its strategic plan for rebuilding the SAR program. However, Coast Guard did not provide a timeframe for completing the evaluation or the replacement project.

#### Non-Standard Rescue Boat Fleet Lacks Headquarters Oversight

In addition to standard motor lifeboats and utility boats, SAR stations have 293 non-standard rescue boats including rigid hull inflatables of various sizes and capabilities. Non-standard rescue boats make up 53 percent of boats operated by SAR station boat crews and carry out roughly 31 percent of SAR missions. In contrast to standard boats, non-standard rescue boats and their crews, are not required to undergo regularly scheduled, formal, readiness inspections.

A July 2000 Coast Guard risk analysis of non-standard rescue boats, initiated in response to an increasing trend in accidents, identified improper operation as the area of highest concern. While Coast Guard has taken some action to implement the study's recommendations; little progress has been made to develop and implement a nationwide training program or to standardize the non-standard boat fleet. In commenting on the draft report, Coast Guard agreed to include each of the top 10 recommendations from the research and development report as action items in its strategic plan and address them appropriately with new policy, acquisitions, and budget initiatives.

## **RECOMMENDATION**

We recommend the Commandant direct the Assistant Commandant for Operations to develop and implement a strategic plan for improving SAR station readiness. It is important that the plan provide a clear framework for rebuilding the SAR Program by describing specific actions, establishing timeframes for completing the actions, estimating implementation costs, and identifying organizations and personnel responsible for completing the actions. The following areas should be addressed in the strategic plan:

- Staffing levels needed at SAR stations sufficient to meet Coast Guard 68-hour workweek standard,
- Improving experience levels by revising assignment practices at SAR stations,
- The need to ensure personnel assigned to SAR stations are adequately trained and qualified as boat crewmembers before reporting to their SAR station assignments,
- Actions to increase the capacity of the Coxswain "C" school,
- Actions to provide training and experience to station personnel to reduce the percentage of SAR boats found "Not Ready for Sea",
- The replacement of the 41-foot utility boat fleet, and
- The "Top Ten Risk Reduction Recommendations" from the Coast Guard Research and Development Center's July 2000 internal study on non-standard boats.

## **U.S. COAST GUARD AND OFFICE OF INSPECTOR GENERAL COMMENTS**

A draft of this report was provided to Coast Guard on July 6, 2001. In addition, we met with Coast Guard and discussed the draft report findings and the intent of the report's recommendation on July 12 and July 20, 2001. In its July 30, 2001, response to the draft report, Coast Guard concurred with the

recommendation. However, Coast Guard's written response did not provide a specific timeframe for completing the strategic plan.

Coast Guard's response also included comments to clarify what it considered to be misunderstandings and incorrect impressions in the draft report. Where appropriate, we modified the report to reflect Coast Guard's comments. Our analyses of Coast Guard's comments are included in the Appendix to this report.

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## DETAILED RESULTS OF THE REVIEW

### Staff Shortages Require SAR Station Personnel to Work Long Hours

Ninety percent of the 188 Search and Rescue small boat stations (SAR stations) operate with staffing levels so low that boat crews must work an average of 84 hours each week to maintain station readiness. Eighty-four hour workweeks exceed Coast Guard's 68-hour workweek standard established in 1988. The standard was established to limit the fatigue and stress among station personnel.

A review of staffing levels during fiscal year (FY) 2000 for 55 stations found 454 (32 percent) of 1,431 positions were either vacant (169) or filled by personnel not certified to perform coxswain or boat crew duties (285).<sup>3</sup> Therefore, 977 personnel (68 percent) were performing the SAR rescue boat duties of 1,431 people. Twelve of the 55 stations had less than 60 percent of the authorized staff level available to perform SAR missions. Table 1 provides examples of SAR stations experiencing severe staff shortages.

**Table 1. Examples of SAR Stations Experiencing Severe Staff Shortages (FY 2000)**

SAR Station	Authorized Positions	Vacant Positions	Number of Staff Not Certified	Number of Fully Certified Staff at Station	Percentage of Authorized Positions Filled With Certified Personnel
Fort Lauderdale, FL	39	7	9	23	59
Belle Isle, MI	29	7	5	17	59
Shinnecock, NY	31	9	4	18	58
Point Allerton, MA	37	2	14	21	57
Marathon, FL	30	7	6	17	57
Two Rivers, WI	14	2	4	8	57
Brunswick, GA	20	4	5	11	55
Fort Pierce, FL	28	7	6	15	54
Port Isabel, TX (South Padre Island)	52	8	17	27	52
Fire Island, NY	35	9	9	17	49
St. Clair Shores, MI	32	14	6	12	38
Venice, LA	25	3	17	5	20
<b>Totals:</b>	<b>372</b>	<b>79</b>	<b>102</b>	<b>191</b>	<b>51</b>

<sup>3</sup> Coast Guard uses Personnel Qualification Standards to train SAR station staff in the duties and responsibilities of rescue boat coxswain, boat crewmember, and boat engineer. These standards are in a checklist format. Individuals must satisfactorily demonstrate proficiency in all checklist items for that particular billet before they can be certified by the Officer-in-Charge of the station. These certifications must be renewed annually.

The table shows that during FY 2000, Station Fort Lauderdale had 39 authorized positions but was short 16 people; 7 positions were vacant and 9 were filled by personnel not certified as either boat crewmembers or coxswains. This left the station with only 23 people (59 percent) available to fill-out station duty rosters.

The shortage of certified staff does not allow station management to establish work schedules that comply with Coast Guard staffing standards. According to Coast Guard regulations, stations must be staffed to allow for 68-hour workweeks for optimal operations.<sup>4</sup> Staffing standards assume that personnel assigned to SAR stations arrive trained and qualified to perform their assigned duties and responsibilities. More often than not, this is not the case. The lack of experienced and certified personnel is a primary reason why boat crews are standing duty 84 hours per week.

Coast Guard regulations also require SAR station personnel to have a minimum of 10 hours of continuous rest before assuming duty and 10 hours of continuous rest during every 24-hour duty period.<sup>5</sup> These work-rest standards were implemented because of Coast Guard's concern about the inability of boat crews to recognize when their physical and mental states were impacted by fatigue. Neither the Coast Guard's Office of Search and Rescue nor its Office of Boat Forces know if stations working 84-hour weeks are violating this work-rest standard. Although stations unable to meet work-rest standards and requesting additional personnel are required to notify the Chief of the Office of Boat Forces via their Group and District commanders, no records of such notifications are kept at either the District or Headquarters levels.

Most SAR stations are required to maintain a readiness standard of launching a fully manned and fully mission-capable rescue boat within 30 minutes of the initial call for help. However, a shortfall of experienced and certified coxswains and boatswain's mates is forcing station managers (officers in charge, executive petty officers, and engineering petty officers) to incorporate themselves into daily duty rosters to meet and maintain SAR station readiness. In the 1st District, 48 percent of the stations rely on their management to augment their station duty rosters. At our request, staff assigned to Coast Guard's Office of Boat Forces polled the stations in Coast Guard's 5<sup>th</sup> and 13<sup>th</sup> Districts and found that it is a widespread practice for station managers to incorporate themselves into their station duty rosters to meet and maintain readiness. Standing boat crew duty leaves station managers with less time to oversee the training and qualification of junior personnel and to monitor the maintenance and operation of the stations' rescue boats.

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<sup>4</sup> Commandant Instruction M5312.11A, *Staffing Standards Manual*, September 26, 1988.

<sup>5</sup> Commandant Instruction 5312.16, *Boat Crew Utilization*, October 16, 2000.

Coast Guard commented that the examples of empty positions cited in the report were snapshots in time when the entire Coast Guard was experiencing personnel shortfalls and that today there are almost no empty positions at its small boat stations and, in fact, there are “extra” personnel at some stations. However, increased staffing levels will not, by itself, immediately increase the number of trained and certified boat crewmembers available for duty, which was the larger problem identified in our analysis. Our audit found 32 percent of assigned personnel were not physically at stations or lacked the requisite certification to perform boat crew or coxswain duties

Staff shortages at SAR stations are a longstanding problem. The Coast Guard’s 1991 Station Staffing Study found that, on average, station personnel were on duty from 80 to 100 hours weekly. The study noted that long hours on duty resulted in lost time due to illness and injury, and increased attrition levels among duty personnel. The high number of stations employing the 84-hour duty rotation shows that staffing continues to be a significant problem at SAR stations.

### **Experience Level of SAR Station Personnel Has Declined**

Since January 1996, the number of experienced personnel (E-4 to E-9) at SAR stations has decreased by 21 percent while the number of inexperienced personnel (E-1 to E-3) increased 194 percent. On average, this constitutes a loss of 3 experienced people and a gain of 6 inexperienced people per station. Maintaining an appropriate number of senior level personnel is vitally important to the SAR Program because Coast Guard relies on experienced personnel to provide on-the-job training to new personnel. In 1996, the ratio of trainer to trainee was 5.5 to 1. The ratio has since declined to 1.5 to 1.

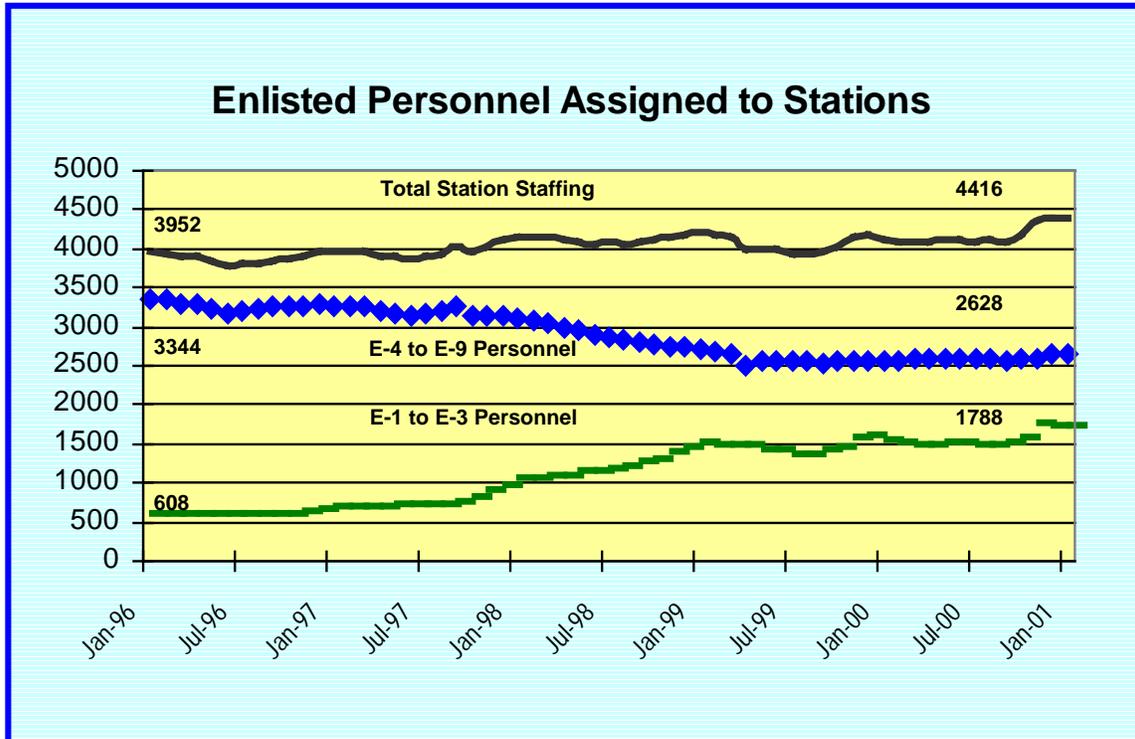
Coast Guard considers E-4s as apprentices, who require supervision to perform their assigned duties. Coast Guard does not currently track the number of E-4s assigned to stations. It does however track as a group, the number of E-4s to E-6s at stations. Consequently, these statistics are believed to seriously understate the experience drain occurring at SAR stations. Figure 1 shows the staffing trend for enlisted personnel assigned to SAR stations from January 1996 to January 2001.

In its July 30, 2001 response to a draft of this report, Coast Guard acknowledged that experience levels have declined throughout the Service due to personnel leaving Coast Guard for various reasons. The Coast Guard also commented that it has not reduced its experience levels by design.

A review of the personnel assigned to SAR stations during FY 2000 disclosed that station boatswain's mates and machinery technicians (generally E-4 to E-9) completed less than 28 months of their 48 month tour of duty at stations before being transferred. According to Coast Guard's Office of Boat Forces, the

shortened tours are due to a number of factors including early separation from duty for personal and medical reasons, retirement, and the lack of senior positions at stations sufficient to allow newly promoted personnel the opportunity to complete their tour of duty. A boatswain's mate second class who is promoted to boatswain's mate first class may be required to accept a transfer if there is not a vacant boatswain's mate first class position at his or her current station.

**Figure 1**



The high turnover rate among senior station personnel limits the Coast Guard’s ability to rebuild its training and experience base. Many SAR stations oversee areas with unique weather, sea, and geographic conditions. Conducting SAR missions in these areas requires a high level of expertise and local knowledge that can take boat crews a year or more to acquire. Because Coast Guard relies on on-the-job training to pass on basic skills, local knowledge, and SAR expertise to its junior personnel, a high turnover rate among the more experienced station personnel can seriously disrupt the continuity and quality of SAR station training.

Increasing the average SAR station tour of duty to 4 years could mitigate many of the problems associated with declining experience levels. Further, increasing the number and seniority of boatswain's mates’ billets at stations to ensure there are enough certified coxswains on hand to meet Coast Guard readiness standards would also increase the overall experience levels at SAR stations.

## Boatswain's Mates Lack Formal Entry-Level Training

Boatswain's mates represent one of the largest of the enlisted job specialties in the Coast Guard, accounting for 65 percent of the coxswains and boat crewmembers assigned to stations. However, no formal school exists for active duty boatswain's mates. This is in sharp contrast to other enlisted job specialties in the Coast Guard, which require weeks of formal training to prepare personnel for their job specialty. Coast Guard provides 12 weeks of formal classroom training to develop public affairs specialists and 11.5 weeks of training for food service specialists. Table 2 illustrates the formal Coast Guard training provided in the various other enlisted career specialties.

**Table 2 - Coast Guard Enlisted Career Fields and Length of Trade Schools**

Job Specialty	Weeks of Formal Training	Job Specialty	Weeks of Formal Training
Telephone Technician	24.0	<i>Food Service Specialist</i>	<b>11.5</b>
Fire Control Technician	23.5	Machinery Technician	11.5
Electronics Technician	19.5	Telecommunications Specialist	11.0
Avionics Technician	19.4	Quartermaster	9.5
Aviation Maintenance Technician	18.0	Gunner's Mate	9.4
Aviation Survival Technician	15.4	Storekeeper	9.0
Electrician's Mate	15.0	Marine Science Technician	7.2
Health Services Technician	13.5	Yeoman	6.0
Radarman	13.5	Musician	-0-
Damage Controlman	12.7	<i>Boatswain's Mate</i>	<b>-0-</b>
<i>Public Affairs Specialist</i>	<b>12.0</b>		

The lack of formal training for boatswain's mates places a heavy training burden on stations. More than 70 percent of vacant positions at small boat stations are filled with Coast Guard boot camp graduates. Boot camp provides little training in seamanship and water survival techniques and no training in small boat handling, SAR techniques, and piloting and navigation.

Providing formal boatswain's mate training to entry-level personnel, seeking a boatswain's mate rating before they report to their station assignment, would significantly alleviate the training workload at stations and ensure all station personnel have a basic level of knowledge needed to become productive members of the stations' workforce. Eight to 18 months of on-the-job training are currently needed for a boot camp graduate to become a boatswain's mate. Boatswain's mates must undergo months of additional on-the-job training to become certified as rescue boat coxswains. Coast Guard re-instituted a boatswain's mate entry-level specialty school for active duty personnel during FY 2001. However, the school's

capacity is limited to approximately 120 students per year, far less than the estimated 400 new boatswain's mates needed per year by the Coast Guard.

Recent Standardization Team (STANTEAM) evaluations and station accident statistics indicate Coast Guard's on-the-job training regime is insufficient and results in knowledge gaps for SAR station boat crews. STANTEAMs biennially inspect and evaluate the material and operational readiness of all standard rescue boats assigned to SAR stations. During these evaluations, written tests are administered to small boat coxswains and boat crewmembers to determine their knowledge of navigation rules of the road, piloting and navigation techniques, rescue boat operations and missions, SAR, and water survival techniques.

Our analysis of the written test results for 572 utility boat coxswains from 91 stations during the FYs 1999 and 2000 STANTEAM testing cycle found 32 percent scored an average of 69 percent or less on all 5 sections of the examination. One-fourth of all coxswains scored 69 percent or less on small boat operations and missions, about one-third scored 69 percent or less on SAR and water survival techniques, and one-half scored 69 percent or less on navigation rules of the road. Our analysis also showed that 28 percent of the senior UTB coxswains, who provide the bulk of the on-the-job training to newly arriving station personnel, scored 69 percent or less on the examination. Table 3 breaks down the senior utility boat coxswain test results by rank.

**Table 3 - Breakdown of Senior Utility Boat (UTB) Coxswain Test Results**

<b>Rank</b>	<b>Number Tested</b>	<b>Number Scoring 69% or Less</b>	<b>Percent Scoring 69% or Less</b>	<b>Average Test Score *</b>
Chiefs	65	14	22	64%
First Class	94	24	25	62%
Second Class	211	64	30	61%
<b>TOTAL:</b>	<b>370</b>	<b>102</b>	<b>28</b>	

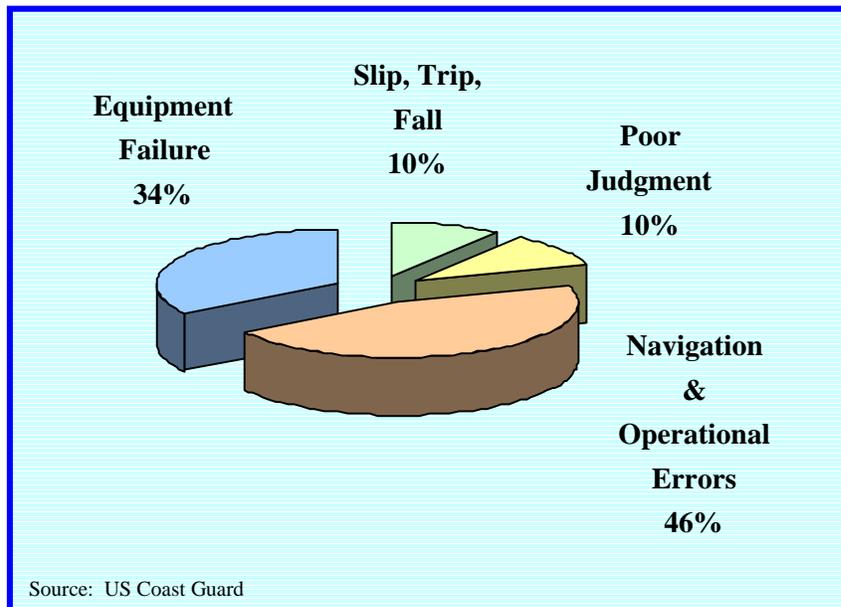
\* Average of those scoring 69 percent or less

Though utility boat coxswains are performing poorly on these written examinations, Coast Guard has no minimum pass/fail standards. Furthermore, Coast Guard does not analyze test results to identify which coxswains are performing poorly and in what subject areas. By not analyzing test results, Coast Guard is unaware of how poorly their small boat coxswains are performing on these examinations so that corrective measures can be taken.

The lack of training and experience for boatswain's mates is one of the factors contributing to an increase in rescue boat accidents. In FY 2000, there were 130 rescue boat accidents, a 225 percent increase over the 40 accidents that occurred during FY 1998. Coast Guard's analysis of FY 2000 rescue boat accident

data found 56 percent of the accidents were caused by poor judgment, or navigation and operational errors and hence, were preventable. Providing boat crews with additional formal training and increasing the output of coxswain schools may reduce these types of accidents. Figure 2 illustrates the breakdown of the causes of the 130 rescue boat accidents that occurred during FY 2000.

**Figure 2 - Causes of Rescue Boat Accidents (FY 2000)**



In its response to the draft report, Coast Guard stated that although its on-the-job training regime was a formal process with specific performance requirements, it has re-instituted an entry-level boatswain's mate school to help accelerate the training and qualification of station boat crews. Coast Guard noted that it will continue to evaluate the utility of the on-the-job training program versus the cost and quality of formal entry-level classroom training, for its remaining boatswain's mate training needs.

Many of the SAR station personnel training deficiencies have been identified in prior Coast Guard reports. In its 1989 Station Study, Coast Guard determined the shortage of experienced personnel at stations significantly impacted the ability of stations to train the large number of inexperienced personnel assigned to stations. The study also cited results of operational examinations where 40 percent of 125 coxswains tested had difficulty on examinations designed to test their navigational skills. Coast Guard's 1991 Station Staffing Study found that senior experienced personnel at stations were not spending enough time training the younger, less experienced personnel, and that unit training was increasingly conducted by inexperienced boatswain's mates.

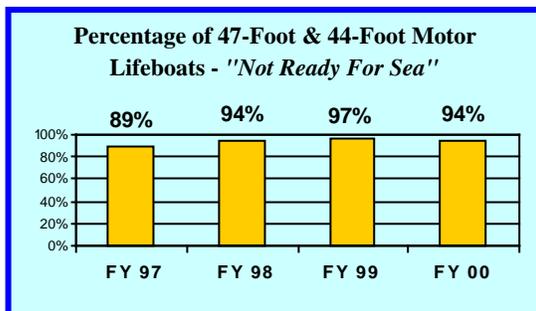
## Standard Rescue Boat Fleet "Not Ready for Sea"

The Coast Guard has 554 rescue boats at SAR stations. Of these, 261 (47 percent) are standard rescue boats. Despite months of advance notice of upcoming inspections, the vast majority of the standard rescue boats inspected at stations are consistently failing to meet minimum Coast Guard inspection standards. During FY 2000, 100 (84 percent) of 119 standard rescue boats inspected by Coast Guard had mechanical problems serious enough for Coast Guard to characterize the boats as "Not Ready for Sea." The "Not Ready for Sea" evaluation means structural, mechanical, and safety deficiencies were identified that rendered the vessel as not fully capable of performing its SAR mission.

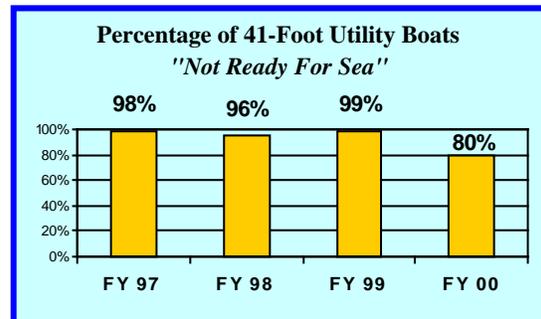
Coast Guard's standard rescue boats share a common structural and propulsion configuration and operating characteristics. All standard rescue boats are required to undergo formal biennial inspections conducted by STANTEAMs comprised of experienced rescue boat personnel from Coast Guard's Utility Boat Systems Center and the National Motor Lifeboat School. STANTEAMs typically notify stations 60 to 90 days in advance of the inspection.

Recent STANTEAM inspection results show Coast Guard's new 47-foot motor lifeboats (the latest addition to its standard rescue boat fleet) and its aging utility boat fleet are failing to meet Coast Guard readiness standards. Unlike the 44-foot motor lifeboat (all more than 28 years old) and the 41-foot utility boat (all more than 18 years old), the 47-foot motor lifeboat fleet is less than 5 years old. During FY 2000, 94 percent of the motor lifeboats and 80 percent of the utility boats inspected were found "Not Ready for Sea". Exhibit B presents photographs of the rescue boats used by SAR stations. Figures 3 and 4 show the percentage of motor lifeboats and utility boats found "Not Ready for Sea" by STANTEAMs since FY 1997.

**Figure 3**



**Figure 4**



While Coast Guard has made progress in improving the readiness of its 41-foot utility boat fleet, the vast majority of these boats continue to experience serious mechanical, structural, and safety problems sufficient to warrant the

"Not Ready for Sea" determination. Table 4 shows examples of mechanical problems found on Coast Guard's motor lifeboats and utility boats.

**Table 4 - Commonly Identified Mechanical Problems (FY 2000)**

<b>Motor Lifeboats</b>	<b>Rate of Occurrence</b>	<b>Utility Boats</b>	<b>Rate of Occurrence</b>
Failure of Watertight Closures	79%	Engine Oil Leaks	72%
Engine Air Shutdown Failure	12%	Loose / Missing Fittings	65%
Failure of Engine Room Venting	9%	Failure of Watertight Closures	20%
Engine Exhaust Leaks	9%	Engine Exhaust Leaks	12%

The failure of watertight closures is a significant problem on motor lifeboats because these boats are designed to roll over and self-right in heavy surf. The proper operation of watertight seals is needed to ensure survival of the boats and their crews. The chief of the motor lifeboat STANTEAM attributes the equipment problems to SAR station staff who often lack the necessary time and knowledge to identify and respond to small boat equipment problems.

STANTEAM inspectors have been finding similar mechanical problems with rescue boats since FY 1989. STANTEAM inspections of 28 motor lifeboats at that time found 17 (61 percent) had engines that overheated at full-throttle, and 15 (54 percent) had extremely worn hoses and belts. During that same year, Coast Guard issued its Station Study that found preventive maintenance was being neglected. The study made recommendations to relieve the manpower shortage so adequate staff would be available to perform needed maintenance. However, SAR stations continue to experience staffing shortages and equipment problems that threaten their ability to effectively maintain the rescue boat fleet.

In its response, Coast Guard commented that the 84 percent "Not Fully Mission Capable" rate drops to less than 5 percent before the inspection teams leave the stations. Coast Guard changed the term "Not Ready for Sea" to "Not Fully Mission Capable" in 2000. According to the Coast Guard, this shows the problems were not as serious as our report indicates. Coast Guard suggested the high failure rate may say more about zealous enforcement of technical standards than the practical assessment of mission readiness. The 84 percent statistic, however, is based on data from inspections conducted by some of Coast Guard's most experienced small boat personnel using Coast Guard's own inspection standards. The contrast between what the experienced personnel find and are able to quickly correct supports our finding that SAR stations lack personnel with the requisite training and experience needed to identify and correct boat deficiencies.

Coast Guard also commented that the problems with watertight closures are not serious because they involved seals that had slight gaps over 10 percent or less of

their length. We believe the problems are more serious because, as Coast Guard stated in its response, it is considering design improvements or engineering modifications to eliminate the problem.

## **Utility Boat Fleet Reaching the End of Its Service Life**

Utility boats make up 64 percent (168 of 261) of the standard rescue boat fleet, 92 percent (155) of which have been in service 20 years or more and are reaching the end of their service life. According to Coast Guard, these vessels have an average of 3 years of engine life and 8 years of hull life remaining.

Failure of structural and mechanical components (cracks in the hull and superstructure, and aging and obsolete propulsion and steering systems) coupled with a scarcity of spare parts are making the utility boat fleet increasingly difficult and expensive to maintain. Because many utility boat parts are no longer manufactured, Coast Guard is having difficulty finding replacement parts and is, in some instances, rebuilding or fabricating replacement parts to keep these vessels fully operational.

Coast Guard has not requested funding either to extend the service life of its utility boat fleet or to design and procure a replacement boat. In its Five Year Funding Projection dated April 9, 2001, Coast Guard eliminated \$116 million for sustainment and modernization of small boats that was included in the August 2000 Five Year Capital Investment Plan.<sup>6</sup> According to Coast Guard officials, the \$116 million would have been used, in part, to design, test, and procure a replacement vessel for the aging 41-foot utility boat. Coast Guard officials told us there are plans in process to reinstate at least some of this funding in future budget requests.

According to Coast Guard, it is premature to estimate the cost of a 41-foot replacement boat. However, based on prior Coast Guard small boat procurements, designing, constructing, and deploying a replacement boat will take 3 years or more (the projected service life remaining on the 41-foot utility boat engines) to complete. The 47-foot motor lifeboat replacement project, which began in 1986, did not deliver its first boat to a SAR station until 1997, more than 10 years after the project began. While it may not take 10 years to design, construct, and deploy a replacement for the utility boat, any delay beyond FY 2004, the expected end of service life for the 41-foot boat engines, increases the likelihood that these boats will not pass future ready for sea inspections. Continuing to operate the utility boat

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<sup>6</sup> Five Year Funding Projection includes \$22.5 million for future sustainment and modernization of vessels spread over FYs 2004 through 2006. However, the funding is not specifically dedicated to SAR rescue boats.

fleet without rehabilitation will further reduce readiness levels at SAR stations and unnecessarily increase the level of risk to boat crews and mariners in distress.

Coast Guard commented that they have a more detailed evaluation underway to determine action needed to keep the 41-foot utility boat operational, are in the process of developing a replacement project for the utility boat mission, and will address its plans to replace the 41-foot utility boat as part of its strategic plan for rebuilding the SAR Program. However, Coast Guard did not provide a timeframe for completing the evaluation or the replacement project.

### **Non-Standard Rescue Boat Fleet Lacks Headquarters Oversight**

Of Coast Guard’s 554 rescue boats at SAR stations, 293 are non-standard rescue boats. Non-standard rescue boats include small and medium sized rigid hull inflatables of various sizes, speeds, and capabilities. These shallow draft boats operate at speeds up to 50 miles per hour and exert significant stress on boat crews during high-speed operations. Non-standard rescue boats carry out about 31 percent of SAR missions and are involved in 63 percent of rescue boat accidents in which crewmembers fall overboard or are ejected into the water. Between June 1998 and April 2001, 28 Coast Guard personnel either fell overboard or were ejected from non-standard rescue boats. Table 5 shows the number of SAR station personnel who fell overboard or were ejected from rescue boats between June 7, 1998, and April 1, 2001.



**Coast Guard 21-Foot Rigid Hull Inflatable Boat Underway**

**Table 5 - SAR Station Personnel in the Water**

<b>Boat Type</b>	<b>Number of Personnel in the Water</b>	<b>Number of Accidents</b>
Rigid Hull Inflatable	28	16
Utility Boat	11	8
Motor Lifeboat	7	6
<b>Total</b>	<b>46</b>	<b>30</b>

In contrast to Coast Guard's standard rescue boat fleet, none of the 293 non-standard rescue boats assigned to SAR stations undergo formal, STANTEAM inspections. Furthermore, no operational doctrine or formal training currently exists for non-standard rescue boat crews. Operational doctrine could provide boat crews with information concerning the handling abilities and limitations of non-standard rescue boats when operated under a variety of weather and sea conditions. The doctrine could assist coxswains in assessing the degree of risk associated with SAR mission activities.

A formal training program devoted solely to train and qualify personnel on the operation of non-standard rescue boats, is needed to ensure SAR personnel are aware of the inherent hazards associated with high-speed non-standard rescue boat operations. Such training could improve the ability of station personnel to evaluate the circumstances and conditions in which non-standard rescue boats are used and, over time, could reduce the number of accidents involving these vessels.

A July 2000 Coast Guard risk analysis of non-standard rescue boat operations was initiated in response to an increasing trend of accidents involving these boats. The study predicted 3 Class A mishaps annually.<sup>7</sup> Such an accident occurred in March 2001 when a non-standard boat assigned to Station Niagara capsized and ejected its 4-man crew into Lake Ontario. Two Coast Guardsmen subsequently died from cardiac arrest associated with hypothermia.

Furthermore, the study identified improper operation of non-standard boats as the area of highest concern, and made recommendations including initiation of unit-level training to quickly reduce operational risk and the development of formal Coast Guard-wide training in this area. The study also recommended developing a standard design and engine configuration for rigid hull inflatable boats, which make up the largest percentage of non-standard rescue boats at stations.

While Coast Guard has taken some action to alert SAR stations of the hazards associated with non-standard rescue boat operations, little progress has been made to implement the bulk of the study's recommendations, particularly the recommendation that Coast Guard develop a formal training program and standardize its fleet of rigid hull inflatable boats.

## **Declining SAR Station Readiness Is a Longstanding Problem**

The SAR small boat stations' problems with staffing, training, and equipment have been identified in congressional testimony and Coast Guard studies for at

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<sup>7</sup> Class A mishaps are those accidents involving property loss of \$1 million or greater, loss of a vessel, or injury resulting in a fatality or a permanent total disability.

least 2 decades. Coast Guard has not taken adequate action to correct the problems, but has instead conducted additional studies, which reached similar conclusions. The 1981 Coast Guard Oversight Report of the Committee on Merchant Marine and Fisheries identified staff shortages at SAR stations, where personnel worked between 90 to 110 hours a week.

Coast Guard's subsequent 1989 Station Study reported a shortage of staff, inadequate training, rescue boats in poor condition, and tour lengths that were too short. Further, Coast Guard's 1991 Station Staffing Study reported significantly under-staffed SAR stations; long work hours resulting in illness, injury, and lower retention; increased fatigue and stress; degraded performance; potentially unsafe operations; and reduced re-enlistment rates. Consequently staffing, training, and equipment problems continue to undermine SAR readiness at small boat stations.

## **Recommendation**

We recommend the Commandant direct the Assistant Commandant for Operations to develop and implement a strategic plan for improving SAR station readiness. It is important that the plan provide a clear framework for rebuilding the SAR Program by describing specific actions, establishing timeframes for completing the actions, estimating implementation costs, and identifying organizations and personnel responsible for completing the actions. Areas the strategic plan should address include:

1. Staffing levels needed to ensure SAR stations do not exceed the 68-hour workweek standard mandated by Commandant Instruction M5312.11A, *Staffing Standards Manual*, September 26, 1988.
2. Assignment practices to reduce turnover rates at SAR stations by increasing the actual average station tour of duty to 4 years.
3. The need to increase the number and seniority of boatswain's mate billets at SAR stations to ensure there are enough certified coxswains on hand to meet Coast Guard readiness standards.
4. The need to ensure personnel assigned to SAR stations are adequately trained and qualified as boat crewmembers before reporting to their station assignments.
5. The need to increase the capacity of the coxswain "C" school to ensure all eligible boatswain's mates receive training early in their SAR station tour of duty.
6. Plans to replace the 41-foot utility boat fleet.
7. The "Top Ten Risk Reduction Recommendations" from the Coast Guard Research and Development Center's July 2000 internal study on non-standard boats.

## **U.S. COAST GUARD RESPONSE**

A draft of this report was provided to Coast Guard on July 6, 2001. In addition, we met with Coast Guard and discussed the draft report findings and the intent of the report's recommendation on July 12 and July 20, 2001. In its July 30, 2001, written response to the draft report, Coast Guard concurred with the recommendation. Coast Guard also suggested wording changes to some of the key areas that we recommended be included in the strategic plan. These changes were consistent with the intent of our recommendation so we revised the recommendation to reflect these suggestions. However, Coast Guard's written response did not provide a specific timeframe for completing the strategic plan.

Coast Guard's response also included comments to clarify what it considered to be misunderstandings and incorrect impressions in the draft report. Where Coast Guard provided additional or clarifying information, we modified the report. Our analyses of Coast Guard's comments are included in the Appendix to this report.

## **OFFICE OF INSPECTOR GENERAL COMMENT**

Coast Guard's planned action is responsive to the recommendation. However, the recommendation will remain open until Coast Guard provides a timeframe for completing the strategic plan for improving SAR station readiness.

## **SCOPE AND METHODOLOGY, AND PRIOR COVERAGE**

### **Scope and Methodology**

Our audit work for this report was conducted between November 29, 2000, and May 4, 2001. We conducted the audit in accordance with Government Auditing Standards prescribed by the Comptroller General of the United States. During the course of this audit we met with and obtained data from the following offices in Coast Guard Headquarters:

<b>Office of the Chief of Staff</b>	<b>Operations Capability Directorate</b>
▪ Office of Programs	▪ Office of Boat Forces
▪ Office of Budget	<b>Operations Policy Directorate</b>
▪ Office of Financial Systems	▪ Office of Search and Rescue
<b>Human Resource Directorate</b>	<b>Personnel Command</b>
▪ Workforce Forecasting and Analysis Division	▪ Enlisted Personnel Management Division
▪ Future Force 21 Staff	<b>Government and Public Affairs Directorate</b>
<b>Health &amp; Safety Directorate</b>	▪ Office of Congressional Affairs
▪ Afloat Safety Division	

Outside Headquarters we met with or obtained data from the following Coast Guard locations:

District 1, Boston, MA
Activities Baltimore, MD
Groups Milwaukee, WI & Woods Hole, MA
Auxiliary Flotilla Wilmette, IL
SAR Stations: Calumet Harbor, IL; Wilmette, IL; Sheboygan, WI; Milwaukee, WI; Curtis Bay, MD; and Brant Point, MA
Training Center, Yorktown, VA - UTB Systems Center STANTEAM
National Motor Lifeboat School, Ilwaco, WA – Motor Lifeboat STANTEAM

As directed in the Conference Report, we conducted our audit in consultation with the National Transportation Safety Board (NTSB). At NTSB Headquarters, we interviewed Office of Marine Safety staff and reviewed records of NTSB investigations involving SAR issues dating back to 1967.

The audit concentrated on SAR Program activities for FYs 1999 through 2001. We collected and analyzed data for prior years as appropriate.

To determine the status, historical trends, and plans for SAR staffing, we met with Coast Guard officials to discuss and obtain copies of the policies, procedures,

regulations, and internal controls for the SAR Program. We determined what studies had been performed on staffing, and compared their conclusions with the current actual staffing numbers and rates. We determined who was responsible for managing the SAR Program and establishing the organizational structure. We also determined whether the amount of staff and their experience levels were appropriate. We determined what internal controls existed to ensure the staff in place matched the numbers and types of personnel authorized. Finally, we analyzed staffing levels at stations to determine the number of qualified staff assigned.

To determine the status, historical trends, and plans for SAR staff training, we determined what training was required, what training had been received, and what further training is needed. We also determined what formal training was available to SAR station staff. Furthermore, we determined what internal controls existed to ensure staff received the required training and experience to perform SAR missions.

To determine the status, historical trends, and plans for SAR equipment, we focused on the STANTEAMs' analyses of the condition of the standard boat fleet. In particular we focused on what rescue boat fleets were covered by STANTEAM inspections, the age and projected remaining service life of the fleets, and their seaworthiness. Furthermore, we determined what internal controls existed to ensure the stations had the rescue boats that were operational to perform SAR missions.

To determine the status, historical trends, and plans for SAR funding, we reviewed the actual Program expenditures for FYs 1996 through 2000. Additionally, we reviewed the budget for FY 2001, the planned budget for FY 2002 and the two most recent Five-Year Capital Investment Plans. Finally, we analyzed this funding both for trends and relative to other major Coast Guard programs.

## **Prior Audit Coverage**

A 1995 Office of Inspector General (OIG) report on the 11th District's SAR Program identified Coast Guard efforts to identify, evaluate, and remedy SAR readiness issues.<sup>8</sup> The report concluded Coast Guard could further improve SAR capabilities if Group Commanders implemented the "Ready For Operations" (RFO) evaluation program at boat stations as required. At that time, four of the five Group Commanders in the District were not conducting RFO evaluations of boat stations. In response to our audit results, the Chief of the Operations Division drafted guidance governing the conduct of RFO evaluations and sent messages to

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<sup>8</sup> U.S. Department of Transportation (Office of Inspector General) Report: "Search and Rescue Program Eleventh U.S. Coast Guard District," R9-CG-5-009, May 11, 1995.

all Group Commanders re-emphasizing the requirement to conduct annual RFO evaluations.

A 1992 OIG report on "Active Duty Force Training" concluded Coast Guard needed to improve its training program.<sup>9</sup> Among other things, the report indicated that even though staffing standards assumed fully trained individuals were assigned to vacant positions, Coast Guard did not routinely provide essential training before individuals reported to their new units. As a result, 50 percent of personnel were not properly trained, increasing both the workload of trained personnel and the need for supervisory oversight.

More specifically relating to SAR stations, the report noted that required pre-arrival training had not been defined. At least 40 percent of incoming personnel to SAR stations were not fully trained for their assigned duties. Furthermore, two-thirds of station personnel indicated the ability to accomplish their mission was inhibited to a great extent by the number of untrained personnel, resulting in more duty hours which Coast Guard recognized could lead to illness, injury, and lower retention levels. In response to our audit results, Coast Guard indicated that by FY 1996 it would identify and provide essential training needed before individuals arrived at new units. Furthermore, the report made reference to three OIG audits of Coast Guard training in 1985, which indicated personnel lacked the skills necessary to perform their assigned duties.

## **Recent NTSB Reports**

On October 5, 1999, NTSB issued "Marine Accident Report Sinking of the Recreational Sailing Vessel *Morning Dew* at the Entrance to the Harbor of Charleston, South Carolina."<sup>10</sup> The report included 16 recommendations to Coast Guard covering watchstander training and proficiency, communications equipment, station manning levels, and support agreements with local agencies. Past NTSB reports have also criticized the SAR Program. These reports documented accidents involving the recreational vessels *Questar Motorboat*,<sup>11</sup> *Rite of Passage*,<sup>12</sup> *Big Abalone*,<sup>13</sup> the tug *Duke Luedtke*,<sup>14</sup> and the commercial fishing vessel *Sea King*.<sup>15</sup>

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<sup>9</sup> U.S. Department of Transportation (Office of Inspector General) Report: "Audit of Active Duty Force Training United States Coast Guard," R5-CG-2-117, June 29, 1992

<sup>10</sup> NTSB/MAR/99-01, October 5, 1999

<sup>11</sup> NTSB/MAR-96/01/SUM

<sup>12</sup> NTSB Marine Accident Brief No. DCA-93-MM-023

<sup>13</sup> NTSB Marine Accident Brief No. DCA-93-MM-029

<sup>14</sup> NTSB Marine Accident Brief No. DCA-93-MM-030

<sup>15</sup> NTSB/MAR-92/05, September 28, 1992

**RESCUE BOATS AT SAR STATIONS**



**47-Foot Motor Lifeboat**



**44-Foot Motor Lifeboat**



**41-Foot Utility Boat**



**21-Foot Non-Standard  
Rigid Hull Inflatable  
Boat**

**TEXTUAL TRANSLATION OF REPORT TABLES AND FIGURES**

In accordance with Section 508 of the Workforce Investment Act of 1998 (Public Law 105-220), this exhibit provides the textual translation of the tables and figures found on pages v, 1, 4, 5, 6, 7, 8, 9, 11, and 15 of this report.

**From Page v:**

Caption: Breakdown of Rescue Boats Found *"Not Ready for Sea"* During FY 1999

Summary: This table charts the type of boat, its age and the percentage not found ready for sea by inspection teams during fiscal year 1999.

Type: 47-foot motor lifeboat

Age: 0 to 4 years

Percentage: 90

Type: 44-foot motor lifeboat

Age: 29 to 38 years

Percentage: 100

Type: 41-foot utility boat

Age: 18 to 28 years

Percentage: 99

**From Page 1:**

Caption: Table 1 - Examples of SAR Stations Experiencing Severe Staff Shortages (FY 2000)

Summary: This table is a sample of 12 stations with severe shortages, where the staffing fell below 60 percent.

Station Name: Fort Lauderdale, Florida

Authorized Positions: 39

Vacant Positions: 7

Number of Staff Not Certified: 9

Number of Fully Certified Staff at Station: 23

Percentage of Authorized Positions Filled with Certified Staff: 59

Station Name: Belle Isle, Michigan

Authorized Positions: 29

Vacant Positions: 7

Number of Staff Not Certified: 5

Number of Fully Certified Staff at Station: 17

Percentage of Authorized Positions Filled with Certified Staff: 59  
Station Name: Shinnecock, New York  
Authorized Positions: 31  
Vacant Positions: 9  
Number of Staff Not Certified: 4  
Number of Fully Certified Staff at Station: 18  
Percentage of Authorized Positions Filled with Certified Staff: 58  
Station Name: Point Allerton, Massachusetts  
Authorized Positions: 37  
Vacant Positions: 2  
Number of Staff Not Certified: 14  
Number of Fully Certified Staff at Station: 21  
Percentage of Authorized Positions Filled with Certified Staff: 57  
Station Name: Marathon, Florida  
Authorized Positions: 30  
Vacant Positions: 7  
Number of Staff Not Certified: 6  
Number of Fully Certified Staff at Station: 17  
Percentage of Authorized Positions Filled with Certified Staff: 57  
Station Name: Two Rivers, Wisconsin  
Authorized Positions: 14  
Vacant Positions: 2  
Number of Staff Not Certified: 4  
Number of Fully Certified Staff at Station: 8  
Percentage of Authorized Positions Filled with Certified Staff: 57  
Station Name: Brunswick, Georgia  
Authorized Positions: 20  
Vacant Positions: 4  
Number of Staff Not Certified: 5  
Number of Fully Certified Staff at Station: 11  
Percentage of Authorized Positions Filled with Certified Staff: 55  
Station Name: Fort Pierce, Florida  
Authorized Positions: 28  
Vacant Positions: 7  
Number of Staff Not Certified: 6  
Number of Fully Certified Staff at Station: 15  
Percentage of Authorized Positions Filled with Certified Staff: 54  
Station Name: Port Isabel, Texas  
Authorized Positions: 52  
Vacant Positions: 8  
Number of Staff Not Certified: 17  
Number of Fully Certified Staff at Station: 27  
Percentage of Authorized Positions Filled with Certified Staff: 52  
Station Name: Fire Island, New York

Authorized Positions: 35  
Vacant Positions: 9  
Number of Staff Not Certified: 9  
Number of Fully Certified Staff at Station: 17  
Percentage of Authorized Positions Filled with Certified Staff: 49  
Station Name: Saint Clair Shores, Michigan  
Authorized Positions: 32  
Vacant Positions: 14  
Number of Staff Not Certified: 6  
Number of Fully Certified Staff at Station: 12  
Percentage of Authorized Positions Filled with Certified Staff: 38  
Station Name: Venice, Louisiana  
Authorized Positions: 25  
Vacant Positions: 3  
Number of Staff Not Certified: 17  
Number of Fully Certified Staff at Station: 5  
Percentage of Authorized Positions Filled with Certified Staff: 20  
Sample totals are:  
Authorized Positions: 372  
Vacant Positions: 79  
Number of Staff Not Certified: 102  
Number of Fully Certified Staff at Station: 191  
Percentage of Authorized Positions Filled with Certified Staff: 51

**From Page 4:**

Caption: Figure 1 – Enlisted Personnel Assigned to SAR Stations

Summary: This horizontal line graph charts the change in composition of the station personnel from January 1996 through January 2001. It compares the overall total of enlisted personnel assigned to stations, which has remained relatively constant (between 3,952 and 4,416). However, the grade group of E-1 through E-3 continually increased during the period from 608 to 1,788, and the grade group of E-4 through E-9, has gradually declined over the same period from 3,344 to 2,628.

Month and Year: January 1996  
Personnel in the Grades E-1 through E-3: 608  
Personnel in the Grades E-4 through E-9: 3,344  
Total Enlisted Personnel: 3,952  
Month and Year: July 1996  
Personnel in the Grades E-1 through E-3: 607  
Personnel in the Grades E-4 through E-9: 3,205

**Exhibit C**  
**(4 of 9 pages)**

Total Enlisted Personnel: 3,812  
Month and Year: January 1997  
Personnel in the Grades E-1 through E-3: 691  
Personnel in the Grades E-4 through E-9: 3,270  
Total Enlisted Personnel: 3,961  
Month and Year: July 1997  
Personnel in the Grades E-1 through E-3: 721  
Personnel in the Grades E-4 through E-9: 3,178  
Total Enlisted Personnel: 3,899  
Month and Year: January 1998  
Personnel in the Grades E-1 through E-3: 1,055  
Personnel in the Grades E-4 through E-9: 3,097  
Total Enlisted Personnel: 4,152  
Month and Year: July 1998  
Personnel in the Grades E-1 through E-3: 1,202  
Personnel in the Grades E-4 through E-9: 2,874  
Total Enlisted Personnel: 4,076.  
Month and Year: January 1999  
Personnel in the Grades E-1 through E-3: 1,511  
Personnel in the Grades E-4 through E-9: 2,699  
Total Enlisted Personnel: 4,210  
Month and Year: July 1999  
Personnel in the Grades E-1 through E-3: 1,382  
Personnel in the Grades E-4 through E-9: 2,547  
Total Enlisted Personnel: 3,929  
Month and Year: January 2000  
Personnel in the Grades E-1 through E-3: 1,570  
Personnel in the Grades E-4 through E-9: 2,553  
Total Enlisted Personnel: 4,123  
Month and Year: July 2000  
Personnel in the Grades E-1 through E-3: 1,497  
Personnel in the Grades E-4 through E-9: 2,587  
Total Enlisted Personnel: 4,084  
Month and Year: January 2001  
Personnel in the Grades E-1 through E-3: 1,788  
Personnel in the Grades E-4 through E-9: 2,628  
Total Enlisted Personnel: 4,416.

**From Page 5:**

Caption: Table 2 - Coast Guard Enlisted Career Fields and Length of Trade Schools

Summary: This table lists the 21 active-duty enlisted career fields in the Coast Guard and the weeks of formal entry-level classroom training personnel receive prior to being assigned their job. It illustrates that only the musician and the boatswain's mate career fields receive no formal training before being assigned their duties.

Job Specialty: Telephone Technician  
Formal Training: 24 weeks  
Job Specialty: Fire Control Technician  
Formal Training: 23.5 weeks  
Job Specialty: Electronics Technician  
Formal Training: 19.5 weeks  
Job Specialty: Avionics Technician  
Formal Training: 19.4 weeks  
Job Specialty: Aviation Maintenance Technician  
Formal Training: 18 weeks  
Job Specialty: Aviation Survival Technician  
Formal Training: 15.4 weeks  
Job Specialty: Electrician's Mate  
Formal Training: 15 weeks  
Job Specialty: Health Services Technician  
Formal Training: 13.5 weeks  
Job Specialty: Radarman  
Formal Training: 13.5 weeks  
Job Specialty: Damage Controlman  
Formal Training: 12.7 weeks  
Job Specialty: Public Affairs Specialist  
Formal Training: 12 weeks  
Job Specialty: Food Service Specialist  
Formal Training: 11.5 weeks  
Job Specialty: Machinery Technician  
Formal Training: 11.5 weeks  
Job Specialty: Telecommunications Specialist  
Formal Training: 11 weeks  
Job Specialty: Quartermaster  
Formal Training: 9.5 weeks  
Job Specialty: Gunner's Mate  
Formal Training: 9.4 weeks

Job Specialty: Storekeeper  
Formal Training: 9 weeks  
Job Specialty: Marine Science Technician  
Formal Training: 7.2 weeks  
Job Specialty: Yeoman  
Formal Training: 6 weeks  
Job Specialty: Musician  
Formal Training: Zero weeks  
Job Specialty: Boatswain's Mate  
Formal Training: Zero weeks

**From Page 6:**

Caption: Table 3 - Breakdown of Utility Boat (UTB) Coxswain Test Results

Summary: This table breaks down a sample of the STANTEAM written evaluation results by grade class: Chief Petty Officers (or Chiefs), First Class Petty Officers, Second Class Petty Officers, and Third Class Petty Officers. The table indicates, for each of the four groups, the number of personnel tested, the number of those tested that scored equal to or less than 69 percent, the percentage of that group tested that scored 69 percent or less, and the average test score of the number tested that scored 69 percent or less.

Grade Group: Chiefs  
Number Tested: 65 personnel  
Number Scoring 69 Percent or Less: 14 personnel  
Percentage Scoring 69 Percent or Less: 22 percent  
Average Test Score of Those Scoring 69 Percent or Less: 64 percent  
Grade Group: First Class  
Number Tested: 94 personnel  
Number Scoring 69 Percent or Less: 24 personnel  
Percentage Scoring 69 Percent or Less: 25 percent  
Average Test Score of Those Scoring 69 Percent or Less: 62 percent  
Grade Group: Second Class  
Number Tested: 211 personnel  
Number Scoring 69 Percent or Less: 64 personnel  
Percentage Scoring 69 Percent or Less: 30 percent  
Average Test Score of Those Scoring 69 Percent or Less: 61 percent  
Grade Group: Third Class  
Number Tested: 202 personnel  
Number Scoring 69 Percent or Less: 79 personnel  
Percentage Scoring 69 Percent or Less: 39 percent  
Average Test Score of Those Scoring 69 Percent or Less: 60 percent

Total Number Tested: 572 personnel  
Total Number Scoring 69 Percent or Less: 181 personnel  
Total Percentage Scoring 69 Percent or Less: 32 percent

**From Page 7:**

Caption: Figure 2 - Causes of Rescue Boat Accidents (FY 2000)

Summary: This figure is a pie chart sliced into four portions. Each portion is a percentile representation of the causes of rescue boat accidents for fiscal year 2000, as follows:

46 percent - Navigation and Operational Errors; 34 percent - Equipment Failure; 10 percent - Poor Judgment; and Slips, Trips, or Falls - 10 percent.

**From Page 8:**

Caption: Figures 3 and 4 - Percentage of Motor Lifeboats and Utility Boats Found "*Not Ready for Sea*"

Summary: The two figures are vertical bar graphs indicating the "*Not Ready for Sea*" rate at small boat stations from fiscal year 1997 to fiscal year 2000. Figure 3, on the left side of the page, presents the data for 47- and 44-foot motor lifeboats and Figure 4, on the right side of the page, presents the data for 41-foot utility boats.

Figure 3, for the motor lifeboats, indicates the percentage of boats "*Not Ready for Sea*" as follows:

In fiscal year 1997, 89 percent.  
In fiscal year 1998, 94 percent.  
In fiscal year 1999, 97 percent.  
In fiscal year 2000, 94 percent.

Figure 4, for the utility boats, indicates the percentage of boats "*Not Ready for Sea*" as follows:

In fiscal year 1997, 98 percent.  
In fiscal year 1998, 96 percent.  
In fiscal year 1999, 99 percent.  
In fiscal year 2000, 80 percent.

**From Page 9:**

Caption: Table 4 - Commonly Identified Mechanical Problems (FY 2000)

Summary: The right and left portions of this table highlight common problems found by the evaluation teams for both the motor lifeboats and utility boats. The tables describe a problem and in the adjoining column, presents the occurrence during inspections for fiscal year 2000.

For motor lifeboats, the problems listed are as follows: Failures of watertight closures were found on 79 percent of the boats inspected. Engine air shutdown failures were found on 12 percent of the boats inspected. Failures of engine room venting were found on 9 percent of the boats inspected, and engine exhaust leaks were found on 9 percent of the boats inspected.

For utility boats, the problems listed are as follows: Engine oil leaks were found on 72 percent of the boats inspected. Loose or missing fittings were found on 65 percent of the boats inspected. Failures of watertight closures were found on 20 percent of the boats inspected, and engine exhaust leaks were found on 12 percent of the boats inspected.

**From Page 11:**

Caption: Table 5 - SAR Station Personnel in the Water

Summary: This table provides a listing, by boat type, of the number of accidents where Coast Guard personnel ended up in the water and how many personnel were involved between June 7, 1998, and April 1, 2001.

Boat Type: Rigid-hull inflatable  
Number of Personnel in the Water: 28  
Number of Accidents: 16  
Boat Type: Utility boat  
Number of Personnel in the Water: 11  
Number of Accidents: 8  
Boat Type: Motor lifeboat  
Number of Personnel in the Water: 7  
Number of Accidents: 6  
Total Number of Personnel in the Water: 46  
Total Number of Accidents: 30

**From Page 15 (upper portion):**

During the course of this audit we met with and obtained data from the following offices in Coast Guard Headquarters:

Under the Office of the Chief of Staff, the Office of Programs, the Office of Budget, and the Office of Financial Systems.

Under the Human Resource Directorate, the Workforce Forecasting and Analysis Division and the Future Force 21 Staff.

Under the Health & Safety Directorate, the Afloat Safety Division.

Under the Operations Capability Directorate, the Office of Boat Forces.

Under the Operations Policy Directorate, the Office of Search and Rescue.

Under the Personnel Command, the Enlisted Personnel Management Division.

Under the Government and Public Affairs Directorate, the Office of Congressional Affairs.

**From Page 15 (lower portion):**

Outside Headquarters, we met with or obtained data from the following Coast Guard locations:

District 1, Boston, MA

Activities Baltimore, MD

Groups Milwaukee, WI & Woods Hole, MA

Auxiliary Flotilla Wilmette, IL

SAR Stations: Calumet Harbor, IL; Wilmette, IL; Sheboygan, WI; Milwaukee; WI; Curtis Bay, MD; and Brant Point, MA

Training Center, Yorktown, VA - UTB Systems Center STANTEAM

National Motor Lifeboat School, Ilwaco, WA – Motor Lifeboat STANTEAM

U.S. Department  
of Transportation  
**United States  
Coast Guard**



# Memorandum

Subject: DOTIG DRAFT REPORT ON AUDIT OF THE  
SEARCH AND RESCUE PROGRAM

Date: JUL 30 2001  
3100

From: Commandant, U. S. Coast Guard

Reply to: G-OCS  
Attn. of: CAPT D. A.  
Goward

To: Assistant Inspector General for Auditing

X7-1591

Ref: DOTIG Report O1M3002M000

1. Enclosed you will find the U.S. Coast Guard response to the recommendations presented in the Department of Transportation Inspector General (DOTIG) audit of our search and rescue program.
2. For additional information concerning this response, please contact CAPT D. A. GOWARD at (202) 267-1591.

A handwritten signature in black ink, appearing to read "J. M. Loy".

**JAMES M. LOY**

Encl: (1) U.S. Coast Guard Response to DOTIG Audit and Recommendations.

**OIG NOTE: ATTACHED IS COAST GUARD'S VERBATIM  
RESPONSE TO THE DRAFT REPORT, SUPPLEMENTED WITH  
OIG ANALYSIS.**

## STATEMENT ON DEPARTMENT OF TRANSPORTATION INSPECTOR GENERAL (DOTIG) REPORT

I. **TITLE:** “*Audit of the Search and Rescue Program, United States Coast Guard*”

### II. U.S. COAST GUARD POSITION

#### General Comments

- **Coast Guard Comment:** The Coast Guard appreciates opportunity to provide extensive comments on this report in an effort to clarify significant misunderstandings and incorrect impressions that may have been mitigated if afforded this opportunity earlier.

**OIG Response:** *Since this audit began during December 2000, OIG staff have been in almost daily contact with personnel assigned to the Coast Guard's Chief of Staff as well as the Chief, Office of Boat Forces to collect, verify, and interpret the report's data and other information. Further, the OIG provided Coast Guard an advance copy of the testimony the Inspector General presented on June 13, 2000, before the Senate Appropriations Committee, Subcommittee on Transportation and Related Agencies. The testimony presented the key results of the SAR audit.*

- **Coast Guard Comment:** Many of the items offered in the report are provided out of context, and do not tell the “whole story.” For example, while the report cites an 84% “Not Fully Mission Capable” rate upon initial inspection by the standardization team, it does not discuss that this rate drops to less than 5% before the team leaves the unit two days later. This clearly indicates that the problems were not as serious as the report would lead one to believe.

**OIG Response:** *The report was modified to reflect Coast Guard's comment that the rate dropped to 5 percent before the team leaves the unit. The audit report uses data from inspections conducted by some of Coast Guard's most experienced small boat personnel using Coast Guard's own inspection standards. The deficiencies that were found by these inspectors were serious enough by Coast Guard standards to categorize the boats as “Not Ready for Sea.” Later in its comments, Coast Guard notes that it is considering design improvements and engineering modifications for the 47-foot motor lifeboat to help eliminate the deficiencies cited by the inspection teams. The ability of the inspection teams to quickly repair the deficiencies supports our finding that SAR stations lack personnel with the requisite training and experience needed to identify and correct boat deficiencies.*

- **Coast Guard Comment:** The report fails to mention that the Coast Guard has numerous efforts underway now, many of which have been in progress for 3 years, to correct most of the deficiencies cited in the report.

**OIG Response:** *The draft report identified several Coast Guard efforts to improve the SAR program.*

- **Coast Guard Comment:** The report calls attention to a “decline” in the Search and Rescue (SAR) program budget, when in fact, over the ten-year period cited, the Coast Guard increased actual spending on SAR operations by almost \$34 million (9.7%) to a total of \$383 million. In addition to increased spending on operations, the Coast Guard has spent approximately \$380 million on the acquisition of 47-foot motor lifeboats and 87-foot coastal patrol boats, both of which are significant SAR response assets. The Coast Guard has allocated additional funding to the National Distress and Response System Modernization Project, Global Maritime Distress and Safety System enhancements and helicopter equipment upgrades, all of which have or will considerably improve our SAR capability.

**OIG Response:** *Although total operating and acquisition, construction, and improvements budgets for the SAR Program has increased since 1991, it has not kept pace with inflation and is now a smaller percentage of Coast Guard’s total budget than in 1991.*

*The procurements of the 47-foot motor lifeboat and the 87-foot coastal patrol boats are noteworthy accomplishments. However, our review determined that SAR stations are experiencing difficulty maintaining the readiness of its 47-foot fleet, which further supports our finding that SAR stations lack trained and experienced personnel. The 87-foot coastal patrol boats are not assigned to small boat stations and have little impact on the SAR Program because they participate in less than 2 percent of all SAR missions.*

- **Coast Guard Comment: General Terminology** - The report is entitled and discusses an “Audit of the Search and Rescue Program, United States Coast Guard” when in fact it is only an audit of small boat stations. Coast Guard aircraft, cutters and communication systems are also important elements of the SAR program. The report also calls units “SAR stations” and describes people as “SAR program personnel” at numerous points when, in fact, they are multi-mission boat stations, and boat crewmembers. While the Coast Guard recognizes that the public generally equates small boat stations with SAR, the point is that the SAR program is much broader than stations and stations have responsibilities beyond SAR. This incorrect naming is misleading and incorrectly represents both the audit and our SAR program/efforts. The report uses the term SAR selectively and inconsistently, throughout, to sensationalize and draw the reader towards a conclusion that the lives of the public and "coasties" are significantly at risk.

- \* Recommend re-title report “Audit of Small Boat Station Program, U.S. Coast Guard.”

- \* Recommend refer to units as “Small Boat Stations” and personnel as “boat crew.”

**OIG Response:** *The final report title was changed to “Audit of the Small Boat Station Search and Rescue Program.”*

## Point By Point

Page i

- **Coast Guard Comment:** The statistics citing recreational vessel fatalities are misleading. While the Coast Guard has a strong interest in reducing all United States recreational vessel fatalities, it does not have responsibility for most of the inland waters of the United States where the majority of recreational vessel fatalities occur. The most dangerous of these craft, canoes and kayaks are regulated by the states and account for a large number of fatalities on inland waters. Also, the fatalities at Station Niagara occurred when the boat and crew were engaged in a Law Enforcement mission.

**OIG Response:** *The statistics cited in the report are derived from Coast Guard's Search and Rescue Management Information System (SARMIS) and only include data on fatalities to which Coast Guard units responded.*

Page iii

- **Coast Guard Comment:** The examples of empty positions cited were snapshots in time when the entire Coast Guard was experiencing personnel shortfalls. Today there are almost no empty positions at Small Boat Stations and in fact there are “extra” personnel at some stations.

The calculations on percent of personnel qualified assume that all personnel filling billets at a station must be boat crew qualified to meet SAR requirements and appears to make percentage of “not certified” personnel calculations on incorrect base numbers. For example, during the 1990’s we added billets such as extra boarding party personnel to stations such as Port Isabel due to increased Law Enforcement requirements in that area. Some of these billets may actually be used to augment the boats crews, but they are not part of the crew complement required to operate the boats on a normal SAR call and should not be counted in the calculation of these percentages, as they were in the report.

While we have not reduced the billet level or structure for the Search and Rescue mission at our Small Boat Stations, we are experiencing a service wide decline in experience in certain billet levels and specialties. This is symptomatic of a Coast Guard-wide and retention challenges facing all the armed forces.

**OIG Response:** *The examples cited analyzed staffing at various times throughout FY 2000, when Coast Guard data indicated SAR stations were overmanned by 155 extra personnel. The calculations used to identify the number of personnel qualified at a station assumed all personnel in the ratings of boatswain's mates, machinery technician, fireman and seamen were qualifying for boat crew duties. Personnel not in those ratings, but assigned to the stations (i.e. food service specialists and storekeepers) were not included. All the billets at Station Port Isabel, South Padre Island, TX were used in support of boat crew operations and thus were included in the analysis.*

Page 1

- **Coast Guard Comment:** The 84-hour duty week is not an indication that a person works 12--hour shifts, seven days a week. Rather, a station's operation tempo may allow crew members to stand 3 consecutive days on duty followed by 3 consecutive days off, which can be defined as an 84-hour duty week. However while on duty, the person might work an average 8-hour day followed by personal time unless needed to respond to a mariner's call for assistance. Personnel routinely use their personal time while on duty for education or training, to complete a work assignment they deferred, exercise, recreation and sleep. At many units the operational tempo and benefits of 3 consecutive days off are preferred by the crew to a schedule that may require fewer hours yet more consecutive days at the station. The 84-hour duty week may not be an overly fatiguing schedule, particularly at these stations. We have also increased staffing in FY01 and will again in FY02, targeting those high operations tempo (OPTEMPO) stations for added billets.

**OIG Response:** *Commandant Instruction M5312.11A (Staffing Standards Manual) prescribes a 68-hour workweek. The Commandant Instruction was established to enhance safety by limiting fatigue and stress among station personnel.*

Page 2

- **Coast Guard Comment:** Table 1 Data – It is not clear when in the year 2000 a “snap shot” of the manning status of these stations was taken. Other than for reasons of normal, short-term vacancies during the summer transfer season, most of our small boat stations currently have extra personnel assigned. The report used total billet strength, not billets assigned specifically for duty standing. The data for Station South Padre Island (Port Isabel), for example, is improperly represented as it considers all personnel assigned regardless of the billet intent rather than focusing on the relevant duty standing billets requiring special qualifications. Personnel were assigned to this station as a result of significant increases in law enforcement activity in the area. While some of these personnel routinely pursue boat crew qualifications, they were not assigned to the station for that purpose and should not be used in making this calculation.

**OIG Response:** *The data in Table 1 represents staffing levels at various times throughout FY 2000. The personnel identified for this analysis were all in the ratings generally used for boat crew operations (boatswain's mate, machinery technician, fireman and seamen). Personnel not in those ratings, but assigned to the stations (i.e. food service specialists and storekeepers) were not included. All the billets at Station Port Isabel were used in support of boat crew operations and thus were included in the analysis*

Page 3

- **Coast Guard Comment:** Rest Requirements – Units are not required to notify the Office of Boat Forces or the District Offices when they exceed crew utilization standards. We are implementing the Readiness Management System, which will give us service-wide visibility on these kinds of issues.

- **Coast Guard Comment:** Experience levels have declined throughout the Service due to personnel leaving the Coast Guard for various reasons. The Coast Guard has not reduced its experience level by design. We have been pursuing measures to mitigate the declining experience levels through retention initiatives.

Page 4

- **Coast Guard Comment:** Increasing Seniority of Billets to Reduce Turnover – While seniority and turnover are related because of current assignment policies, these are really two separate issues: (1) The seniority of billets at stations should be appropriate to the tasks and responsibilities of the assignments, and (2) Assignment policies must be modified to reduce turnover. Increasing the seniority of all boat station petty officer billets as a blanket policy would do little if anything to decrease turnover. Changes in surfman assignment policies are in place and others are being pursued to reduce personnel turnover.

**OIG Response:** *The final report has been amended to address the seniority of station billets and the assignment policies contributing to the high turnover rate at stations as two separate issues.*

*Coast Guard's assignment policies and a shortfall of senior boatswain's mate billets have a serious impact on SAR station readiness levels. The premature transfer of the most experienced and qualified personnel and a shortage of senior billets at stations not only reduce overall experience levels of boat crews, but diminish the quality of on-the-job training. It is also a major disincentive for those individuals seeking advancement through the ranks and removes experienced personnel from stations who might otherwise have chosen a career in the SAR Program.*

Page 5

- **Coast Guard Comment:** Boatswains Mate primary training has been done on-the-job through the Professional Qualification Standard vice in a “school house.” It is a formal process with specific performance requirements. The Coast Guard is establishing a BM “A” school for active duty personnel to help accelerate training and qualification programs. In FY-02 the school should be able to train up to 120 persons per year. We continue to evaluate the utility of the “striker” on-the-job training program for BMs as opposed to the cost and quality of “school house” training for our remaining BM training needs.

Boatswain's Mates do not lack formal schools. Coxswain “C”, Motor Lifeboat (MLB), OIC/XPO schools are designed for BM’s and deal with the more technical nature of the BM rating skill set as opposed to the general set of basic skills that can be satisfactorily learned through on the job training and qualification.

**OIG Response:** *The final report has been amended to state that boatswain's mates lacked a formal "entry-level" school. Coast Guard recognized the benefits of "schoolhouse" training by its plans to re-institute an entry-level school for active duty boatswain's mates. Providing "schoolhouse" training to aspiring boatswain's mates should significantly reduce the heavy training workload currently being carried by experienced SAR station personnel.*

Page 6

- **Coast Guard Comment:** The conclusion that "lack of formal training for boatswains mates shows up in accident statistics" is not supported entirely by the facts as presented. That inference could be drawn but not exclusively. A number of factors, including training, experience, boat design, weather and many other factors contribute to the mishaps. Improving training alone will not adequately address this problem.

The statement that mishaps have increased by 225% implies a direct correlation between lack of formal training and mishaps. This correlation is unproven. It could as easily be argued that the decline in experience levels, which we have experienced across the Coast Guard, is as big or bigger a factor than formal training. Further, there is no mention of emphasis on our new mishap reporting and data collection procedures, which may provide for a better accounting of actual incidents.

**OIG Response:** *The final report has been modified to indicate there is not an exclusive correlation between lack of formal training for boatswain's mates and recent SAR station mishaps. However, Coast Guard's own analysis of these accidents found 56 percent were caused by poor judgment, or navigation and operational errors and hence, were preventable. Providing boat crews with formal "schoolhouse" or equivalent training is one way of potentially reducing the number of accidents.*

Page 7

- **Coast Guard Comment:** The report fails to mention that, at the end of the two-day assessment, over 95% of the boats initially found not fully mission capable, were fully mission capable. Being "not fully-capable" does not preclude a SAR response by that boat, particularly if the discrepancies are minor and an emergency situation requires a response to save lives. The statistic may say more about zealous enforcement of technical standards than the practical assessment of mission readiness.

Watertight closures – A great majority of the problems with watertight closures involved seals that had slight gaps, 10% or less of their length. This discrepancy does not pose a significant problem in that normally it is the result of a slight misalignment that normally would preclude water intrusion beyond drops. We are considering design improvements and engineering modification to help eliminate these minor issues.

**OIG Response:** *The Coast Guard utility boat and motor lifeboat inspection teams are staffed by SAR professionals with decades of experience operating and maintaining SAR rescue boats and follow Coast Guard's own inspection standards. The Coast Guard teams' inspections, conducted over the past 5 years, determined that over 80 percent of standard boats at SAR stations are experiencing structural, mechanical, and safety problems serious enough to characterize the boats as either "Not Ready for Sea" or "Not Fully Mission Capable." Coast Guard's statement that many of the problems found by the inspection teams are quickly repaired supports our finding that SAR stations lack personnel with the requisite training and experience needed to identify and correct boat deficiencies.*

Page 9

- **Coast Guard Comment:** 41' UTB Useful Life – The statistics you cite are based upon a 1998 engineering evaluation (Ship Structure and Machinery Evaluation Board – SSMEB). We currently have a more detailed evaluation underway to determine action that will need to be taken to keep the boat operational until its replacement is in place.
- 41' UTB Engines – The report implies that 120 days of lead-time is a problem in keeping the 41-UTB operational. The 120-day lead-time for parts to rebuild engines has not been a problem in meeting mission readiness requirements.

41' UTB Replacement Funding – We are in the process of developing a replacement project.

Page 10

41' UTB Replacement Cost - We have not estimated the cost to replace or operate our existing 41' UTB with an identical or similar boat. It is premature to advertise these numbers outside the Coast Guard based upon very preliminary estimates. Our longstanding intent has been to replace the UTB with a different boat that meets our projected needs rather than replacing it in kind. We expect the performance requirements of the replacement boat will result in a lower cost than an identical 41' UTB. It is too early in the process to discuss the number of boats required or their cost. Doing so could establish incorrect benchmarks that could hinder the acquisition in the long run. These numbers should be eliminated from the report.

41' UTB Replacement Project – We have begun the formal procurement process. The Mission Analysis Report is complete, the Vice-Commandant has approved it as an acquisition project, and a project officer (G-13) was assigned to the program staff last year. Each of these represents the essential first steps to acquire a replacement boat.

**OIG Response:** *Based on Coast Guard's comments that it is premature to estimate replacement costs for the 41-foot UTB, we have removed the specific dollar estimate*

*from the report. Coast Guard's comments recognize the need to begin action to replace the 41-foot UTB. Timely action is needed since Coast Guard is experiencing difficulty finding replacement parts and is, in some instances, rebuilding or fabricating new parts to keep its 41-foot UTB fleet fully operational. Funding for a 41-foot UTB replacement will have to compete with other large capital needs such as the Deepwater Capability Replacement Project and the National Distress and Response System Modernization Project.*

Pages 10 and 11

- **Coast Guard Comment:** Non-Standard Boat (NSB) Oversight – The report contends that NSB's have no oversight by any level of management in the Coast Guard. Oversight of NSB purchase, operation, training, and support is provided by District and Group Commanders since the boats are expected to meet a niche need for the operational commander's requirement which may vary significantly from location to location.

Formal Training for Non-Standard Boats – A formal PQS training and qualification program exists for all positions in all boats. While it is not done in a schoolhouse setting, it is a formal process with well-established requirements.

Action on NSB Risk Analysis Study – We have made progress on many of the study's most important recommendations (top 10).

NSB Training – We have developed a standard NSB training program and have prototyped it in several locations in Pacific Area. HQ and Area Commander's staffs have met to discuss the resources required to implement this training service-wide. The Area Commanders will soon decide on actions to take to implement such programs.

NSB Standardization – G-OCS has contracted with a consultant to develop specifications and a procurement package for the Response Boat – Small, which will replace much of our non-standard boat fleet with a standard boat. We will use this to establish a standard for this class of boat and award a contract beginning in FY-02, to replace these boats as they reach the end of their useful life.

NSB Doctrine – A draft NSB Operator's Manual has been available to units from our web site for over a year. We are in the final phases of incorporating changes and editing it prior to sending it to publication.

**OIG Response:** *The report was amended to state the program lacked "Headquarters" oversight. Oversight on a national level is needed to ensure the standardization of rigid-hull inflatable boats in all aspects of their use, including operational doctrine, training, and boat design and configuration. Furthermore, Headquarters involvement is needed to ensure the Coast Guard's Risk Analysis recommendations are implemented.*

## RECOMMENDATION AND OIG RESPONSE

**OIG RESPONSE TO COAST GUARD'S ACTIONS:** *In the draft report, we recommended Coast Guard develop and implement a strategic plan for improving SAR station readiness. The strategic plan would provide a clear framework for rebuilding the SAR Program by describing specific actions, establishing timeframes for completing the actions, estimating implementation costs, and identifying persons and organizations responsible for completing the actions. The recommendation also listed 7 elements that should be addressed in the plan. These elements were intended to focus Coast Guard's actions on the staffing, training, equipment, and oversight issues impacting SAR readiness at small boat stations.*

*Coast Guard agreed to develop and implement a strategic plan for improving SAR program readiness. We have asked Coast Guard to provide a timeframe for completing the development and approval of the strategic plan by the Commandant.*

## COAST GUARD RESPONSE TO OIG RECOMMENDATION

**OIG RECOMMENDATION - “...Assistant Commandant for Operations develop and implement a strategic plan for improving SAR Program Readiness...At a minimum this plan should address:”**

### **USCG Concurs**

**USCG Intended Action** – As has been described by previous comments, we have been implementing a strategic plan for improving SAR readiness for the past three years. The Assistant Commandant for Operations has for several years developed and maintained a business plan that projects out five years. This can be and has been sorted by mission area, platform type, budget year, etc. From this document we have developed a strategic plan specifically for restoring SAR Readiness. This plan is currently under review by the Assistant Commandant for Operations and will be submitted to the Commandant within 30 days.

**RECOMMENDATION - “1. Staffing levels needed to ensure SAR stations meet the 68-hour work week standard mandated by Commandant Instruction M5312.11A, Staffing Standards Manual, September 26, 1988.”**

### **USCG Concurs**

**USCG Intended Action** – The USCG is developing new operating and staffing methodologies that will provide for a reduced duty week, better development of skills, improved retention of experienced people and better utilization of training investment. However, the Coast Guard accepts that local operations tempo and unit characteristics allow command discretion on alternative schedules that meet readiness and performance requirements and are more attractive to station personnel, yet require more hours at the unit.

**RECOMMENDATION - “2. Seniority of billet structure at SAR stations to allow all personnel the opportunity to complete or extend their 4-year station tour of duty.”**

**USCG Concur-in-Part.** Propose changing the wording as follows:

“Seniority of billet structure at stations required to fully meet unit tasking and responsibilities.” and “Assignment practices to help ensure that all personnel have the opportunity to complete and possibly extend their 4-year tour of duty.”

**USCG Intended Action** – We have upgraded a number of billets based upon operational need and are evaluating whether further upgrades might be required as part of our five-year budget strategy. We have modified assignment practices to allow for longer tour lengths for surfman personnel and are planning to decrease turnover in all assignments. However we must be attentive to the very same concerns in all programs brought about by retention challenges. All ships have BMs: significant changes to the assignment policies at stations will have some effect upon BMs assigned to ships. It would be impractical and potentially detrimental to the BM rating to look at the stations as a stand alone entity in devising new billet structures and assignment practices that do not consider the rate as a whole.

**RECOMMENDATION - “3. The capacity of boatswains mate and machinery technician “A” schools to ensure all personnel assigned to SAR rescue stations are fully-trained and qualified before reporting to SAR stations.”**

**USCG Concur-in-Part.** The goal of any BM/MK “A” school is the same as that of any other “A” school. It is to provide the basic skills and foundation needed to rapidly utilize on-the-job training at the unit to reach a fully qualified standard. Because many of the steps needed to become “fully qualified” are by necessity, undertaken at the unit, it would be impossible to “ensure that all personnel assigned...are fully-trained and qualified before reporting...”. Propose re-wording as follows:

“The capacity of boatswains mate and machinery technician “A” schools to ensure that personnel are provided the basic training required to begin qualification at their new unit. This training should be provided to as many BM and MK personnel as possible before their first assignment in rating.”

**USCG Intended Action** – In FY02 the Coast Guard is establishing a BM “A” school for active duty personnel that should be able to train a large portion of the personnel we require each year. We continue to evaluate the utility of the “striker” on-the-job training program for BMs as compared to the cost and quality of “school house” training for our remaining BM training needs. It may be that the best solution is a

mix of “A” School and strikers. We will examine methods to ensure that MKs assigned to stations are trained as boat crew.

**Note:** The items in this recommendation will be addressed as part of the strategic plan. However, it is important to recognize that both our evaluation of relative training effectiveness (schoolhouse vs OJT) for BMs, and the resource implications associated with a large additional school may make it impractical for the Coast Guard to transition rapidly and completely to an A-school-only environment for BMs.

**RECOMMENDATION - “4. The capacity of coxswain “C” school to ensure all eligible boatswains mates receive training early in their station tour of duty.” –**

**USCG Concur-in-Part**

**USCG Intended Action** – This review will be included in the five-year strategy document. Very clearly “C” school is a good way to start the process to train a coxswain. However, there are many factors that must be considered and integrated into BM training to ensure that we conduct the best and most cost effective method for this task. It is important to recognize that both our evaluation of relative training effectiveness (schoolhouse vs OJT) for BMs, and the resource implications associated with a large additional school may make it impractical for the Coast Guard to transition rapidly and completely to an A-school-only environment for BMs.

Suggest the recommendation be revised to read “....“C” school to ensure as many as possible eligible...”.

**RECOMMENDATION - “5. Plans to replace the 41-foot Utility Boat fleet.” –**

**USCG Concur**

**USCG Intended Action** – As discussed previously we object to the specific costs and numbers of replacement boats being mentioned in the report. It is too early in the process to project any cost relative to the replacement UTB.

**RECOMMENDATION - “6. The recommendations from the Coast Guard Research and Development Center’s July 2000 internal study on non-standard boats. In particular, those recommendations to improve the safety and oversight of non-standard boats and their crews.”**

**USCG Concur-in-Part.** The R&D study made numerous recommendations, the top ten of which are forecasted to mitigate the greatest of the risks. Propose re-wording as follows:

*“The Top Ten”* recommendations from the Coast Guard Research and Development Center’s July 2000 internal study on non-standard boats. In particular, those recommendations to improve the safety and oversight of non-standard boats and their crews.”

**Appendix  
(13 of 13 pages)**

**USCG Intended Action** – Include each of the top 10 recommendations from the R&D report as action items in our strategic plan and address them appropriately (new policy, new acquisitions, new budget initiatives, etc).