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ON SCENE

U.S. Department of Transportation
United States Coast Guard

DTIC ELECTE MAR 13 1994 S F D

94-08244

Risky Business

What COMDT Instruction applies here?

Approved for public release

3/93

COMDTPUB P16100.4

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CHIEF, OFFICE OF NAVIGATION SAFETY
AND WATERWAY SERVICES
UNITED STATES COAST GUARD
WASHINGTON, D.C. 20593-0001

Dear "On Scene" Readers,

The summertime/traditional SAR season is over. You have again performed in sterling fashion, saving numerous lives and millions of dollars in property. Yet your biggest challenges lie ahead.

During winter months, heavy seas, high winds, and freezing temperatures compound the inherent dangers in each and every SAR case. Donning proper personal protective equipment is an essential element of coping with the winter environment. Survival clothing lockers must contain complete, serviceable hypothermia protective outfits. Pay particular attention that your inventory includes clothing that is sized to protect every crewmember on your unit. Stocking only medium and large sizes does everyone a disservice.

Remember, every time you go out, there's a chance you may end up in the water. There is no substitute for proper preparation. "Be Safe."

Sincerely,

W. J. ECKER
Rear Admiral, U. S. Coast Guard

ON SCENE 3/93

Table of Contents

Letters to the Editor 1
Coast Guard Auxiliary – 101: A Basic Introduction for Regulars 4
Mishap Debrief, Grounding 6
Mishap Debrief, Near-Sinking 9
Review of the Search and Rescue Program Response Standards 10
Search and Rescue Highlights 14
Marine Rescue Squadrons of America 15
Motor Lifeboat Maintenance 17
Ninth District Develops Preventive SAR Program 19
SARMIS: Welcome Aboard 20
SARMIS: New Version Released 21
SARSAT 22
Coast Guard Cutter Helps with Historic Voyage 25
"May I mumbo dog-face to the banana patch?" 26
SAR in Foreign Territories 27
Rescue and Survival Systems Notes 29
Update on Selected International SAR Activities 31
U.S. Coast Guard / Russian SAREX 32
Risk-Taking; is it Worth it? 34
Information on High Sulfur Fuels 35
U.S. Coast Guard Maritime SAR Assistance: Clarification of a Sensitive Policy 36
32' PWB Replacement 38
Helicopter-Boat Hoisting Safety 41
Cuban SAR Case 43
Fire on Tampa Bay, Lessons Learned 44
Search and Rescue Division 48

By .....
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Availability Codes
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COVER: *Marine Safety Manual M16000.11*

ON SCENE is a triannual, authorized, special interest publication, produced by the Office of Navigation Safety and Waterway Services for members of the U.S. Coast Guard and the SAR community. Editorial content is not to be considered as authority for official action, nor as record material. Individual views and opinions expressed do not necessarily reflect those of the Department of Transportation or the U. S. Coast Guard.

Letters to the Editor

Dear On Scene Editor:

We recently read the 2/93 issue of On Scene and were amazed by your response to QM1 Denner's letter to the editor.

We in the CPO mess feel the response was not constructive and potentially stifling to individual ideas. P.O. Denner's idea was TQM in action. He should be commended for trying to improve the system and taking the time to write On Scene. Hopefully someone will see his letter and seriously evaluate the idea and respond appropriately.

CPO Mess
USCGC Active

Dear On Scene Editor:

I read your editorial comments in the 2/93 issue to QM1 Denner's suggestion for an On Scene CD-ROM library as an inside-the-box, business-as-usual, bureaucratic excuse. You should be proud to be the editor of a magazine whose readers think highly enough about the contents to want access to every issue.

Customer suggestions are not to be callously written off. I believe the idea deserves a closer look. If CD-ROM is too expensive, create a bulletin board, or send out the text of the articles without pictures via E-mail, or make a floppy diskette of articles available. Quality is not all NWGs and QATs. Actions speak clearly.

LT D. R. Triner, Jr.
CO, USCGC Red Cedar

Dear On Scene Editor:

While reading the 2/93 edition of On Scene, I was astonished at your reply to QM1 Denner's suggestion to publish On Scene on CD-Rom. While I agree with you the idea does not have merit in the current budgetary constraints, I have difficulty understanding how your response could be considered appropriate. In the past couple of years I have witnessed great efforts by the Coast Guard to teach our people that their ideas have merit. Look at our Idea Express program for example . . . even if an idea may be off-base and not doable, the suggestor is still praised for taking the initiative to submit it. Your response to QM1 seems to suggest that if the gentleman has an interest in computers (i.e. "weenie") that it is somehow a negative thing. His idea, should be seriously considered, even if it is later determined not to be in the best interest of the program manager. Instead, he was nationally chided and told that his idea ended up in the trash. If this was an attempt at humor, I, as well as many members of my ship's crew, missed the joke. I suggest an apology both personal and published be offered to QM1 Denner.

LT C. B. Lloyd
USCGC Firebush, Executive Officer

Editor's Note: We obviously have struck a few nerves with our comment in the last On Scene. Sometimes we have to be a little lighthearted with our job here. Unfortunately we did it at QM1 Denner's expense this time. We apologize to QM1 Denner. We are glad you read On Scene! *o/s*

Dear On Scene Editor:

On Scene is a good informative magazine; only one big problem - - your phone list is way out of date!

AMVER: PA1 Terrill has been gone for over two years, is a PAC, and is the editor of the Commandant's Bulletin. PA2 Uhlenhopp has been gone for almost that long and is now on PIAT.

These obvious errors make me wonder about the rest of the info in your magazine.

CWO J. Hollis
D11

Editor's Note: Thanks for that important information!

Dear On Scene Editor:

Page 18 of the 2-93 issue of "On Scene" shows CG 47201 underway in the Louisiana Bayou. There are at least 5 POB, none have PFD's on.

Shame on them. Isn't it CG policy that all CG small boats (crewmembers) shall wear PFD's.

Robert C. Colby
USCG Aux, DSO/OP D9

CDR LEWANDOWSKI's Reply:

CG Regulations (§4-1-27 B) states that "life preservers shall be worn in boats on all occasions unless their removal is authorized by the commanding officer or appropriate agent." However, the tasking is not that specific in the Rescue and Survival Systems Manual where §5.B states "personnel should where personal flotation devices in boats on all occasions unless the CO/OIC authorizes their removal on a case by case basis". Of course those rules apply to COAST GUARD boats.

In the questionable photo, the caption is not really correct. Though in standard CG paint scheme, replete with stripe, shield and hull number, the boat isn't really a Coast Guard boat. Until acceptance at Station Cape May (well after the picture was taken), that vessel was really "TMS Craft 201" (Note the absence of the National and CG Ensigns.)

Though we would *hope* our people would have PFDs on, Textron Marine Systems was in no way subject to CG regulations. *o/s*

Dear On Scene Editor:

We received the most recent On Scene here today in D7 (dpa), and were glad to see a big story concerning the "Storm of the Century."

We were wondering, however, why the article ran in-depth details of cases in District 1, 5, and 8, but not the seventh. D7 took the brunt of the storm, more lives saved in the Seventh than in the other three Districts combined, and Airsta Clearwater set new standards for excellence as they dragged dozens of mariners from 25-30 foot seas. We can't figure out why these items were barely mentioned.

Please let me know if there is a way to improve the process so that future articles give a more balanced view of what actually occurred.

LCDR J. Howe
D7

Editor's Note: The best way to get your district or station recognized is to submit your article to us. All affected districts were solicited for input on the "Storm of the Century," including CGD7. We worked with what we received. *o/s*

Dear On Scene Editor:

I am writing to express my compliments and appreciation to ON SCENE, CDR Perkins, and LCDR Monteith for the outstanding article on lessons learned from the tragic loss of the F/V SEA KING. Constructively critiquing the actions of others is sometimes an unenviable and delicate process, particularly when done in a public forum. The authors did an admirable job of extracting crucial lessons learned while at the same time making clear that they, as well as we who read the article, had the benefit of hindsight, a luxury rarely afforded to those who are really "on scene".

Only days after the article arrived here in Humboldt Bay, we responded to assist the F/V CATHERINE ANN, disabled 20 miles off the coast of northern California. The CGC SAPELO took the boat in tow and brought her to the Humboldt Bay entrance buoy where two 44' MLBs from Station Humboldt Bay were waiting to relieve the tow. The intent was to bring the CATHERINE ANN across the bar into Eureka. Bar conditions were marginally acceptable for crossing with a tow. As SAPELO neared the sea buoy the master of the CATHERINE ANN suddenly reported he was taking on water but could not determine the cause of

flooding. An H-65 helicopter was dispatched from Air Station Humboldt Bay. The MLBs closed to assist. Things started to get REALLY busy and a little hectic.

Everyone involved began to recognize the strong similarity between what was happening and what had happened in the SEA KING case. There was a powerful sense of deja vu. Then something amazing happened... to paraphrase DR. Seuss' famous Grinch story, "Our brains grew three sizes that day". Armed with the still fresh insights from your article, we formulated a plan of action: First, we designated SAPELO OSC, they did a superb job directing the actions and coordinating the communications of the multiple units involved. We then elected to transfer a pump from one of the MLBs in lieu of a difficult hoist delivery to a vessel which was disabled and in tow. We decided not to bring CATHERINE ANN across the bar but instead towed her to an uncomfortable but safe anchorage in the lee of a nearby headland. She was dewatered, the flooding was stopped, and the boat spent the night at anchor under the watchful eye of SAPELO. The next morning bar conditions had improved markedly, the crossing was uneventful (but everyone was topside anyway). CATHERINE ANN was safely moored in time for morning coffee break.

Many thanks to CDR Perkins, LCDR Monteith and ON SCENE for tackling the difficult task of writing the SEA KING article. We were better prepared to deal with the CATHERINE ANN as a direct result of having had the opportunity to read it. Perhaps the most valuable lesson learned is that a willingness to exercise hindsight is sometimes the only way to sharpen foresight.

CDR John Miko
Operations Officer, Group/Air Station Humboldt Bay

Editor's Note: Thanks! *o/s*

About Letters to the Editor:

ON SCENE seek letters to the editor and will gladly publish them. Some rules do apply though.

1) *The author's name, address, and telephone number must accompany letter.*
2) *If requested, the author's name will be withheld, but nameless letters will not be considered.*
3) *ON SCENE has the right to edit all letters for taste, grammar, and length.*

"Coast Guard Auxiliary – 101": A Basic Introduction for Regulars

By: Robert M. Peterson, Chief, Surface Ops Qualifications Branch
USCGAUX National Staff

At a time when Coast Guard Auxiliary members are increasingly augmenting Active Duty boat crews and Group or Station OPS and COMM Centers, we felt an overview of the organization would be useful, particularly for those in positions able to utilize Auxiliary support.

The U.S. Coast Guard Auxiliary is the volunteer, civilian, boating safety component of the Coast Guard family. Chartered by an Act of Congress in 1939, Auxiliary membership is open to U.S. citizens over 16 years of age who own at least a 25% interest in a boat, airplane, land radio station, or possess other skills or knowledge of value to the Auxiliary. The closest parallel organization would be the Air Force Auxiliary, better known as the Civil Air Patrol. "Auxiliarists" may assist the Coast Guard in all activities except military and law enforcement functions.

Auxiliarists wear uniforms similar to those of Coast Guard commissioned officers, distinguished by the placement of a small "A" on collar insignia, silver instead of gold buttons and sleeve lace, reversed name tag colors (blue letters on a white background), and other subtle differences. Auxiliary members don't acquire "rank" in the traditional sense, but wear insignia indicating the elected or staff office they hold (or that of the highest office previously held).

With the exception of District Commodores who, by courtesy, are addressed as "Commodore Jones", Auxiliary members are not addressed by rank or office, merely as "Mr. Smith, Coast Guard Auxiliary" or "Mr. Jones, Flotilla Commander". To further minimize confusion with Active Duty personnel, Auxiliary offices employ non-traditional titles and insignia. For example, a "2-striper" is a Flotilla Commander, a "3-striper" a Division Captain, and a "4-striper" is a Rear- or Vice Commodore.

The "local unit" level of the Auxiliary is the flotilla, led by an elected Flotilla Commander. Five or more adjacent flotillas form an Auxiliary division, headed by an elected Division Captain. Multiple divisions comprise an Auxiliary district (or region), led by an elected District Commodore. Each organizational level has an elected "XO" (Vice Commander, Vice Captain and Vice Commodore, respectively) and a dozen or more appointed Staff Officers. The staff positions suggest the wide variety and scope of functions the Auxiliary performs: Aids to Navigation, Career Candidates, Communications, Finance, Information Systems, Materials, Member Resources, Member Training, Operations, Public Affairs, Publications, Public Education and Vessel Examinations.

Auxiliarists base their membership in the organization on ownership (full or partial) of a private boat, aircraft or land-radio station which, once inspected and accepted by the District Commander, becomes an Auxiliary "facility", which may be used for Search and Rescue missions and patrol operations. Auxiliary vessel facilities may fly a distinctive blue and white ensign at all times, except when "under orders" for patrol work or SAR activity. Under those conditions the blue and white ensign is replaced by a unique "battle ensign" bearing the familiar orange Coast Guard diagonal stripe on a white field, with the blue "crossed anchors" Auxiliary emblem. The Auxiliary has four "cornerstone" programs.

In the **Courtesy Marine Examination** (CME) program, trained Auxiliarists examine private pleasure craft, with the consent of their owners, to determine if they are equipped to meet applicable Federal, State and local regulations. Unlike an Official Boarding (conducted by Active Duty personnel), the Auxiliary "CME" is completely voluntary, and the owner/operator is the only individual provided with the results of the examination. For those vessels found lacking, (outdated flares, inadequate PFD's, burned out running lights and faulty extinguishers are common problems) the CME check-sheet serves as a handy shopping list for the next trip to the marine supply store or chandlery. Once properly equipped, the vessel is issued the Auxiliary "Shield of Safety" decal, attesting to its compliance.

In the **Public Education** (PE) program, Auxiliary instructors teach a variety of Boating Safety courses tailored to the interests of both power-boaters and sailors. These programs range from single-lesson classes up to 13-lesson comprehensive courses, emphasizing the basic principles of Navigation, Rules of the Road, Communications and Seamanship needed by pleasure boaters. Graduates of Auxiliary PE courses are typically extended discounts on marine insurance premiums from underwriters well aware of the benefits of Boating Safety education.

These first two programs may be viewed as "Preventive SAR" in nature. The third Auxiliary cornerstone, **Operations**, is performed in one of two distinct modes: (1) Suitably trained and qualified Auxiliary members may augment Regular and/or Reserve crews aboard Coast Guard vessels and at shore-side commands. Under this program, some Auxiliary members have become qualified to fill crew positions aboard 41' UTB, 44' MLB and other rescue and patrol craft. Others have qualified as "Assistant Controllers", supplying OOD's and SAR Controllers with valuable local knowledge, or as "Radio Watchstanders" assisting the Duty RMs with routine and some types of distress radio traffic. (2) Auxiliarists may also qualify to conduct Safety and Regatta patrols, and respond to SAR call-outs aboard their own vessels, aircraft and land-mobile radio stations, operating in conjunction with Regular and Reserve units or independently.

While underway "under orders," Auxiliary vessels assume "government vessel" status; i.e., they use a Coast Guard Auxiliary radio call sign, operate on government frequencies, are reimbursed for fuel costs and covered by government "insurance". One of the beauties of Auxiliary operations is that Auxiliary assets are typically available on the same congested weekends and holidays that place the greatest demands on Regular and Reserve boat crews and stations. Stations that have cultivated a close working relationship with their local Auxiliary flotilla(s) enjoy some distinct advantages over those that haven't.

Auxiliary vessel crews are trained and evaluated through the Auxiliary Boat Crew Qualification Program (BCQP), a "hands-on, task-oriented" process which qualifies successful candidates as Auxiliary "Crewmen", "Operators" and ultimately "Coxswains". Auxiliary air crews fly their own private aircraft (which have been examined and accepted by the District Commander as Auxiliary facilities) in a variety of missions ranging, by district policy, from logistics flights (ferrying personnel and/or equipment) on up to SAR sorties (supplementing or replacing Active Duty air assets as appropriate).

Auxiliary land-mobile communications units consist of cars, vans, and RV's equipped with marine VHF and other radios to support SAR activity. Once activated, they perform an amazing array of functions. They can conduct harbor checks, often in much less time than would be required to send a UTB to the marina, freeing up that surface resource. A role of growing importance involves the use of Auxiliary land-mobile units to interface with representatives of other organizations, in multi-agency SAR cases. An Auxiliary land- mobile unit parked alongside the Sheriff's squad car, fire engine, or police vehicle can provide a direct communications link between the controlling station and other agencies' units, which often are not equipped with marine VHF radios.

Auxiliary fixed-land communications stations vary in capabilities from those with a single VHF radio to others outfitted with Marine, CB, Amateur, HF, and Aviation radios; multi-channel programmable scanning receivers, direction-finding gear, and phone-patch, repeater, and other communications assets. Personal computers with data bases of Auxiliary and other agencies' SAR assets, and programs to compute tide heights and current velocities, are increasingly seen at the more fully equipped Auxiliary fixed-land stations.

The Auxiliary, however, is far from an "all work and no play" organization. In the fourth cornerstone, **Fellowship**, Auxiliarists enjoy a special sense of camaraderie with fellow members, those from other boating organizations, and the Regulars and Reservists with whom they interact on a frequent basis. Station OinC's and Group Operations Officers, hard pressed to field a full complement of trained and qualified personnel, are encouraged to investigate local Auxiliary resources. *o/s*

Mishap Debrief, Grounding

By: LT Bruce McIntosh and CWO3 Rick Schmidt, G-NRS-2

From the following complete radio log, you would think this Coast Guard station had a quiet night until the last entry.

2115	CG UTB U/W FOR L/E WITH 04 POB
2145	OOD MADE ROUND ALL SECURE
2220 L/L	'RCVD 911 CALL TRANSFER FM COUNTY SHERIFF RELAYING FM AN INDIVIDUAL REGARDING A VSL TAKING ON WATER AT POINT COMFORT
2223	VHF.FM CG UTB ENR FM BAYSIDE
2233 L/L	RCVD CALL FM COUNTY SHERIFF STATING PERSON SWAM TO SHORE AND NO LONGER NEEDS ASSISTANCE
2310 T3	CG UTB RPTS THEY ARE HARD AGROUND W/MINOR INJURIES TO TWO PERSONNEL, BAKERS ISLAND

Read on....

The UTB got underway for a routine LE patrol with four crewmembers onboard. The coxswain (BM3) had 2 years UTB experience operating in the unit's AOR. He was armed with a sidearm and was the only qualified Boarding Officer onboard. The boat engineer (MK3) was certified as a boat crewmember and boat engineer the day the mishap occurred. He was also armed with a sidearm and was a certified boarding team member. One of crewmembers, (SN "A") was not at the helm when the grounding occurred. He had been certified as a boat crewmember 37 days before the mishap and was not armed. The helmsman at the time of the grounding (SN "B") had been certified as a boat crewmember 8 days before the mishap. He was a certified boarding team member and brought along the riot shotgun for the L/E sortie.

Here is a breakdown of UTB underway hours for the boatcrew in the 30 days preceding the mishap.

	DAY	NIGHT
Coxswain	7.6	4.5
Engineer	3.3	0.0
SN "A"	19.5	2.2
SN "B"	8.3	0.0 (First time U/W at night in AOR)

On scene weather at the time of the accident was:

WINDS: 190T 14 kts with gusts to 22 kts
VISIBILITY: 7 to 9 nautical miles
SEAS: Calm to slight chop

Once underway, the UTB stopped a pleasure boat to perform a routine boarding. The pleasure boat was held alongside while the coxswain and engineer performed the boarding. SN "A" took the helm and maneuvered the UTB to keep station. At 2223 during the boarding, the station directed the UTB to proceed and assist a vessel taking on water. At 2233, the station informed the UTB that their assistance was no longer required. The coxswain directed SN "B" to take the helm, reduced speed and head for the station.

Shortly after, the station contacted the UTB via cellular telephone and directed the UTB to contact a police department (PD) regarding a boating accident. The coxswain called the PD via cellular and the UTB was requested to proceed to the vicinity of a marina and look for debris from a boating accident. The coxswain directed SN "B" to bring the throttles all the way up to 2650RPM (26 KTs) and head towards the marina. The helmsman also asked for and received permission to energize the blue light. At this time the helmsman indicated to the coxswain, "The windows are very hard to see out of due to permanent salt spray that would not come off". * SN "B" then asked for permission to reduce speed as the UTB was entering a strait. The coxswain directed SN "B" to maintain present speed and provided instructions on how to enter the strait safely. He directed the helmsman to give the two lighted aids to starboard a wide berth and head up the strait.

After leaving the second lighted buoy to starboard the coxswain directed the helmsman to turn to port and line up on the center span of a bridge. At this time SN "B" again stated that "the windows were causing a terrible glare". SN "A" was standing immediately aft of the steps to the forward compartment and performing lookout duties ahead and to port. He informed SN "B" that there was a tug off the port bow. SN "B" maintained his heading and passed the tug port to port. After this, the coxswain informed the helmsman that another vessel was approaching at 005° relative. SN "B" decided a starboard to starboard passage would be appropriate and turned approximately 10° to port to safely maneuver around the oncoming vessel.

* *Information contained in quotations was extracted from the written statements given by the boat crew.*

After the pass was made, the coxswain turned aft to face the chart table and started to "secure my 4100S report so I could prepare to enter port". The UTB was headed for the center span, the nearest point of land was 100 yards to starboard and the water depth was 25-29 feet. Shortly after the coxswain turned aft, SN "B" turned the UTB to starboard approximately 10° to return to the original trackline they were heading before the pass. And he was still having problems seeing clearly through the windows! While under some power lines, he slowed to approximately 20 Kts. After the speed adjustment the coxswain stated, "I took one more look around and observed no dangers". At this time, the boat engineer was looking for debris to port and aft. SN "A" was looking for debris off the port bow and the coxswain was still facing the chart table. About 30 seconds later at 2310, the UTB came to an abrupt stop!

The coxswain sustained a bruised knee. The helmsman sustained a bruised elbow and the MK3 received a laceration over the left eye. SN "A" received no injuries. The UTB sustained the following damage:

1. Extensive skeg damage.
2. Dished, dented, bent, bowed and gouged hull plating along the whole bottom of the boat in various places.
3. The starboard shaft, strut, prop, rudder and port and starboard rudder post bent and misaligned.

Total repair cost: Over $50K

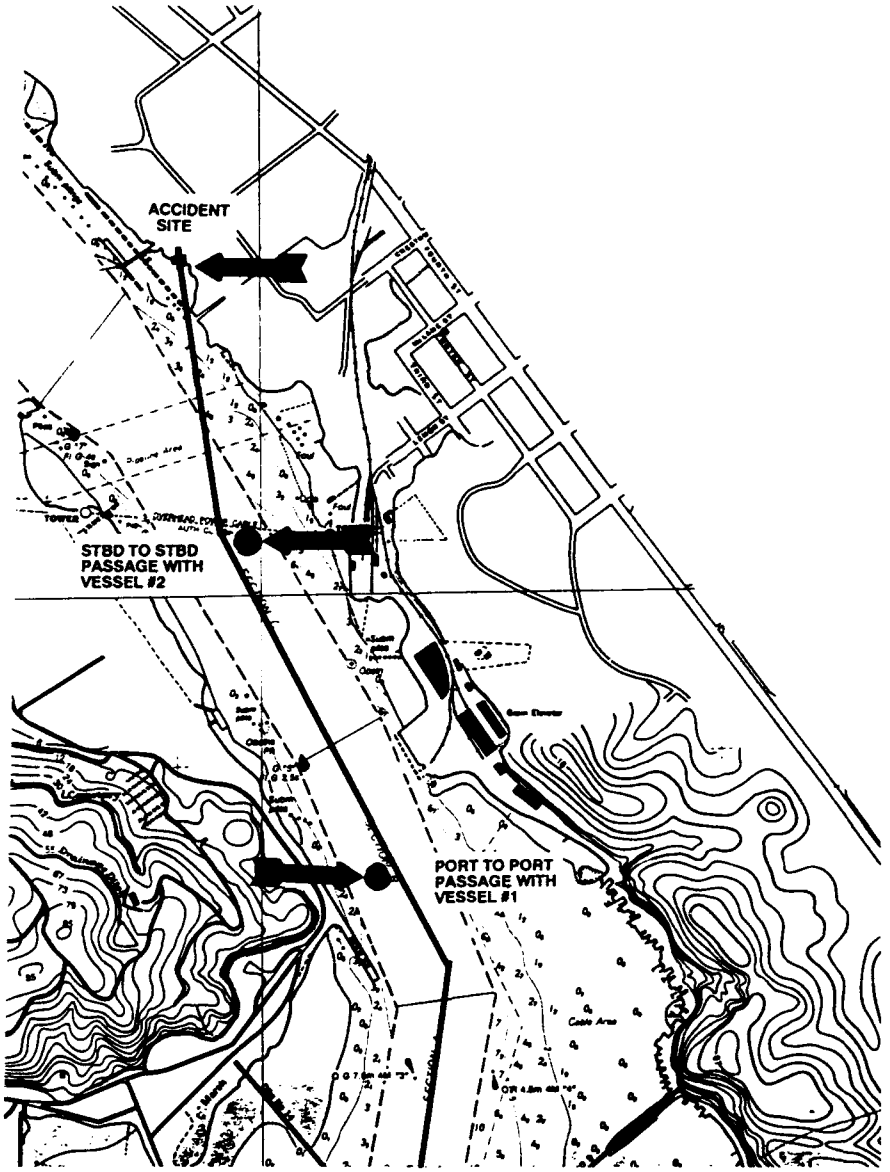


Figure 1. UTB route prior to incident.

Now that you understand what happened, lets look at how and why this accident occurred.

1. The helmsman (SN "B") at the time of the mishap had never navigated in this area at night. He had also mentioned to the coxswain, on at least two occasions that evening, that he was having difficulty seeing through the forward windows due salt water deposit build up and pitting, and the subsequent glare from shore lights.

2. The coxswain was not continuously looking forward. He did not provide guidance to the helmsman in the form of a magnetic compass course to steer. At no time did he take a navigational fix, a range and bearing or any other action to determine the UTB's position. He relied solely on seaman's eye. Even though the helmsman commented about his difficulties in seeing through the UTB's windows, the coxswain did not feel it was necessary to reduce speed.

3. The boat engineer and SN "A" were both acting as lookouts inside the UTB. All windows and the door into the cabin were shut. This made it impossible for either one of them to maintain a proper lookout by sight and hearing as stated in Rule #5 of the Navigational Rules.

4. Lack of constructive communication between the helmsman and the coxswain showed a severe lack of boat resource management and contributed directly to the cause of the grounding.

In summary, a Coast Guard UTB was severely damaged in a grounding incident due to the negligence of the coxswain, the inexperience of the helmsman, and the lack of proper lookouts.

♦ An accurate navigational fix should have been taken on a regular basis to determine the position of the vessel.

♦ Electronic equipment should have been used for navigational purposes and to coordinate the passing situations of other vessels.

♦ The criteria for safe speed was not taken into consideration as the speed of the boat was in excess for the prevailing conditions (salt spray on the windshield).

♦ The coxswain is ultimately responsible that boat and its crew and must be aware and/or direct all course changes that are being made while underway.

♦ The material condition of the windows also played a significant role in the cause of this accident.

This was a very serious incident that could have been a lot worse. We all need to continue to learn from these case studies to do our jobs more professionally. Everyone in a boatcrew should be aware of the position of their vessel while underway and of the conditions which surround them. Remember this word: **RISK MANAGEMENT**, (refer to the article on "RISK-TAKING; Is It Worth It" in this issue of O/S).

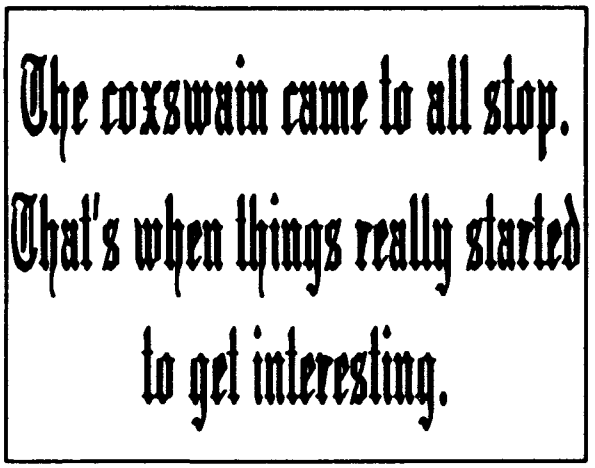
There is nothing that will get a crew and vessel in trouble quicker than not being fully and properly trained in all aspects of the vessel you're working on. All crewmembers should take it upon themselves to not only learn his/her job thoroughly, but to take the initiative and learn the other aspects of the boat and how it functions. The most important part of any small boat is the crew that operates it. Their training, experience, skills, knowledge, and **TEAM WORK** are the factors that dictate success or failure of a mission. **SAFETY FIRST**!!!!! Even when you are responding to an urgent distress SAR case, you must always know the capabilities of your people and equipment. Always evaluate the situation and assess the risks. Never endanger your own crew in any situation where their lives could be placed in serious peril. **YOU** are the future of the Coast Guard! *o/s*

Author's Note: Many thanks to the members of the MAB for information provided in this article.

Mishap Debrief, Near–Sinking

By: CWO R. SPEARS, G-KSE-4

No doubt most UTB types, BM's and MK's alike, are aware that we nearly lost a 41' UTB a short time ago. The quick action taken by the well trained crew saved the boat, but the incident could have been prevented.



About a half an hour after getting underway, the coxswain smelled smoke and asked the crew to investigate. After a cursory check, the crew surmised that the smoke was exhaust being blown into the cabin by the following wind. Nobody checked the engine compartment. Approximately 20 minutes later, the port alternator light began flickering and the engineer went below to inspect. The raw water overboard discharge hose had separated at the exhaust pipe allowing water to be pumped directly into the engine bilge at approximately 50 GPM. The water level was up to the base of the fuel priming pump. No alarm sounded because the loud hailer/bilge alarm was set in the "hail" position.

The coxswain came to all stop. That's when things really started to get interesting. The lack of cooling water through the neoprene muffler caused it to overheat and burn through. When the boat came dead in the water, the seawater backflowed through the exhaust port rapidly flooding the lazarette through the hole in the muffler. This caused the well deck to submerge and the stern to sink to the towing bitt. These events occurred in rapid succession.

Luck was with this crew. A close by WPB took them in tow and kept the bow into the seas and a helicopter dropped them an extra pump. The combined efforts of these units, and the fact that the crew kept their cool, most probably saved the boat.

This all happened for a very simple reason. The raw water discharge pipe support bracket for the port engine was missing and had been missing for some time. This caused eventual failure at the discharge hose/exhaust pipe connection. The boat suffered $64,000 in damages because, at some point in time, a $2 part was omitted during reassembly.

Several lessons here:

1. Check your boat and your spare parts bin. Make sure nothing in the bin belongs on the boat.

2. A bilge alarm is a bilge alarm and it must be "on" to serve its intended purpose.

3. Maintain your level of training. This crew saved a boat and possibly themselves by following procedures that they were well trained in.

4. Don't let your guard down, follow up on even the slightest warning.

Realize that most mishaps are the result of a chain of seemingly insignificant events that lead up to a serious problem. Identify and arrest the little problems before they gang up on you. *o/s*

Review of the Search and Rescue Program Response Standards

By: LT Rich Schaefer, G-NRS-1

(a) National SAR Manual, COMDTINST M16120.5/.6, 1 NOV 86.
(b) National SAR Manual, COMDTINST M16120.5A/.6A, 1 FEB 91.
(c) U.S. Navy Marine Climatic Atlas of the World, CD-ROM Version 1.0, March 1992.
(d) U.S. Navy Manual of Preventive Medicine, P50-10-3.

In January of 1993, at the request of the Commandant and the Chief of Staff, the Search and Rescue Division completed a review of the current Coast Guard SAR Response Standards to determine their continued viability. In the course of this review the following were looked at:

- SAR Program Goals,
- SAR Program Standards,
- the SAR Response Standard,
- how the SAR Response Standard and goals relate,
- the environmental basis for the SAR Response Standard,
- how the CG was doing with respect to meeting the SAR Response Standard and goals, and
- recommendations for the future of the SAR Response Standard.

General Program Objectives. To understand the SAR Program standards it is important to remember that the SAR Program is directed by three General Program Objectives:

- To minimize loss of life, personal injury, and property loss and damage in the maritime environment;
- To take the "Search" out of Search and Rescue through education, research and development, and employment of technology; and
- To maintain world leadership in maritime search and rescue.

In the examination of the SAR Response Standards, we were only concerned with the first of these objectives.

Life/Property Objectives. As stated in the SAR Program Description dated 4 November 1990, the effectiveness of the program must be measured in terms of how well it minimizes loss of life and property in the maritime environment. We use two "macro" indicators of how well we are doing our job, which are defined as **Program Goals**:

After Coast Guard notification,

(1) Save 90% of those people at risk of death on waters over which the Coast Guard has SAR responsibility, and

(2) Prevent the loss of 70% of the property that is at risk of destruction on waters over which the Coast Guard has SAR responsibility.

These indicators directly relate effectiveness to the primary benefits to society of the SAR Program. It is important to note at this point that the goals consider all cases where the Coast Guard was notified, even if in remote areas of the world. And, "lives saved" (Goal #1) is often a subjective determination, even though we have provided guidance to make the proper determination. Granted, these goals are somewhat arbitrary. And we usually come close to meeting them each year. If these goals were set higher, then we would have to expend greater effort (translated: need more boats, planes, and people) to meet them; the converse would be true if they were set lower.

The primary objective of the Coast Guard, and the SAR Program, is the saving of lives. The saving of property is always of secondary importance during the execution of a SAR case. It is therefore reasonable to set a goal for saving lives that is higher than the goal for saving property (90% vice 70%). Additionally, the Coast Guard is frequently not notified of a distress until the craft containing the lives to be saved has already sunk or

is no longer salvageable. Personnel who enter the water or embark into life rafts might be saved hours or possibly weeks after the property is lost.

SAR Program Standards. In order to achieve the goals of the SAR Program, a set of standards have been developed. These standards provide guidance for performance in various stages of the SAR incident. Adherence to each of the standards directly supports achieving the program goals. There are seven primary SAR program standards:

- **VHF-FM distress net** is the primary distress alerting and SAR controlling communications method for U.S. coastal waters. Standard of 100% VHF-FM continuous coverage to receive a one watt signal out to 20 nautical miles around the U.S. Atlantic, Pacific, Gulf of Mexico and Great Lakes coasts.

- **406 MHz Emergency Position Indicating Radio Beacon (EPIRB)**. Program endorses the 406 as the primary distress and position indicating device. Carriage is mandatory for certain vessel categories and recommended for all.

- **SAR Planner Training for SAR Mission Coordinators**. 100% attendance/completion of resident SAR planner training at the National SAR School for area, district, section, and group SAR planner watchstanders.

- **Command and control**. Process and evaluate information about a SAR incident, determine appropriate action. Initiate action within five minutes of initial notification of a distress incident.

- **SAR Response**. A two hour total response time which is further defined:

  (1) Readiness. Search and rescue unit ready to proceed within 30 minutes of notification of a distress.

  (2) Transit. Search and rescue unit on scene, at datum, or in the search area within 90 minutes of getting underway.

[Note: Readiness for a particular unit is not established by the SAR Program but has been explicitly assigned to the District Commander. In certain areas at certain times of the year a lower readiness than B-0 (greater than 30 minutes) is justified.]

- **Computer Aided Search Planning (CASP)**. Use of CASP for planning guidance for all cases involving incidents outside the 30 fathom mark when:

  (1) The duration of an incident has or could exceed 24 hours, and

  (2) There is uncertainty concerning the incident time, incident location, type of search object(s) involved.

- **Automated Mutual Assistance Vessel Rescue System (AMVER) Participation**. Use of AMVER for identification of rescue resources for all cases involving incidents on the high seas.

Each of these standards contribute to the attainment of the SAR Program goals. The SAR system is dependent on all these standards to be successful. Yet, most people, even within the Coast Guard, normally only think of the SAR Response Standard. It is an important standard since it affects our cutter, aircraft, and boat resources - both numbers and siting.

SAR Response Standard. The SAR Response Standard (timeliness) is a key to the prevention of loss of life and property and a successful SAR system. The Response Standard of two hours is currently broken down into 30 minutes (B-0) for a search and rescue unit to be ready to proceed, and 90 minutes for it to arrive on scene or in the search area. The basic two hours of the SAR response standard has remained unchanged since its inception in the mid 1970s. It was established as a result of recommendations following a comprehensive study of the SAR program conducted from 1967 through 1971. The standard is based on the expected survival time of a person in the water as determined by Figure 4-1, Water Chill Without Antiexposure Suit, of reference (a) (old version of the National SAR Manual). The temperature used, 60°F, was based on the mean water temperature in the maritime region around the United States. The source for that temperature or definition of "maritime region" is not given. The latest version of the National SAR Manual, reference (b), which superseded reference (a), contains a NEW and much improved Figure 4-1 which relates water chill directly to expectancy of death from hypothermia. Death from other causes, including drowning following unconsciousness from being immersed in cold water, are not directly reflected in Figure 4-1. These issues will be addressed later.

Response Standard - Goal Relationship. All of the

SAR Program Standards contribute to the success the program has in regards to reaching the Program Goals. There are links between standards and goals; changes in regards to standards will affect the goals. We examined how the SAR Response Standards related to meeting the SAR Program Goals. To simplify the task, We only examined data related to the goal regarding preventing loss of lives, the more stringent of the two goals. The results showed that a majority of the lives we affect, either saved or lost, occur within the two hour SAR Response Standard.

After two hours, CG boats and helicopters, the primary Coast Guard SAR resources performing 88% (FY91) of Coast Guard underway sorties, have saved 83% of the total lives they can affect. This equates to lives saved divided by lives saved plus lives lost after Coast Guard notification. These resources achieved their maximum effect in this area within the first two hours. The data shows that overall, these resources saved 91% of the total lives they could affect in FY91. The results for all resources were only slightly lower at two hours, and essentially the same overall. **What the results show us is the two hour SAR Response Standard is reasonable in relation to the Program Goals.**

Environment. The SAR Response Standard has been based on information that the Mean Surface Water Temperature for the maritime region is 60°F. No basis for the 60°F is listed in the history of the standard. Because this is one of the primary factors in developing the standard, validation of this temperature is very important. We conducted an analysis of surface water temperatures for the U.S. coastal waters. We more narrowly defined our area from "maritime region" to "U.S. coastal waters", because that is where we perform the vast majority of our missions (approximately 95% of all cases occur within 20 nautical miles of the coast). In the analysis, we determined the mean surface water temperature in U.S. coastal waters to be 64.6°F (18.1°C).

In addition to water temperature, we looked at three other environmental factors for U.S. coastal waters: sea height, air temperature, and surface winds. Although not previously considered in developing the SAR response standard, these factors can have a significant effect on survival in the water. The mean values for each factor resulting from this evaluation were:

Mean sea height - 3.2 feet

Mean air temperature - 64.7°F

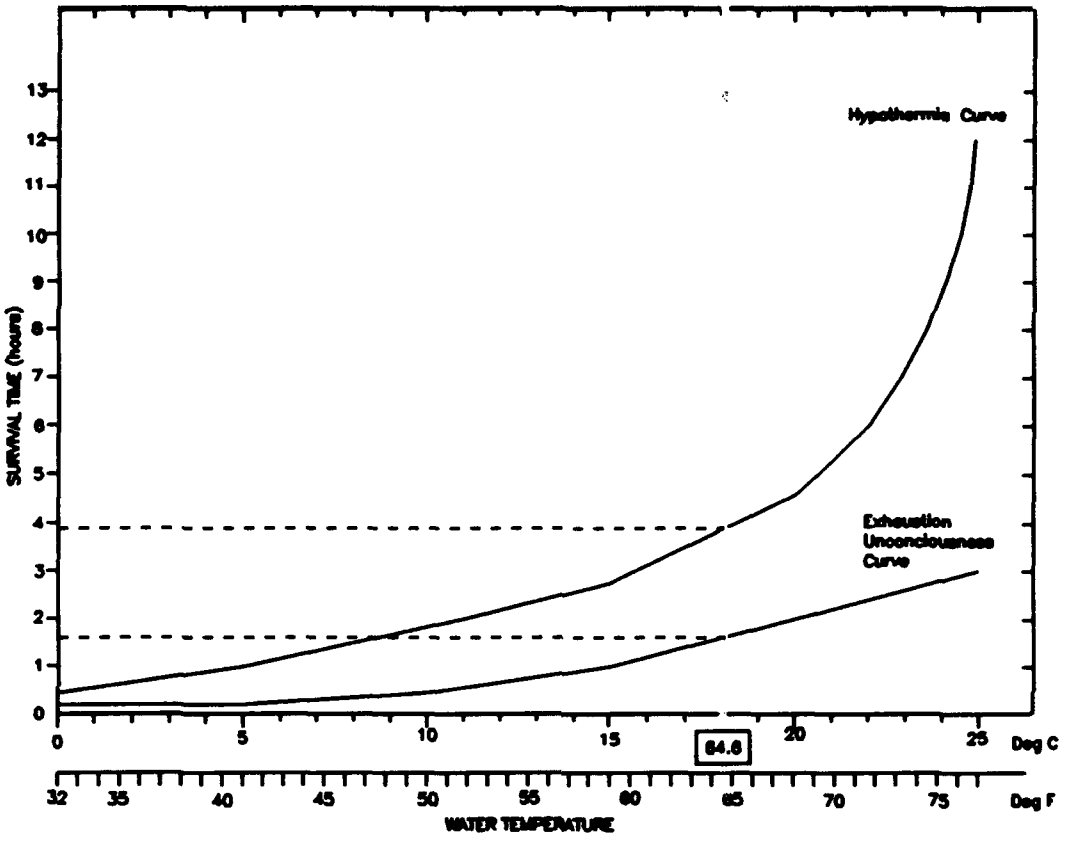
Mean surface wind speed - 11.9 knots

Survival. When considering the amount of time a unit has to arrive on scene, we must look at the point when persons first start dying. For many, this may occur only moments after a rescue agency is notified due to injuries sustained in an accident. Those lives we can not reasonably affect. We are left to consider those who have come through an accident without fatal or severe injury and are faced with the effects of the environment on their ability to survive.

Until recently the Coast Guard, and others involved in maritime rescue, had relied on a survival graph (figure 4-1 of reference (a)) which had been in use for over 40 years. Recent study and advances in the understanding of the effects of hypothermia have lead to the adoption of a new graph showing survival expectation based on hypothermia (figure 4-1 of reference (b)). The new graph provides much better information to the SAR planner in suspension or continued search decisions. However, it is limited when using it as a guide to determine how soon a search unit must arrive to prevent loss of life. This is primarily because only the likelihood of death from hypothermia is considered but not drowning due to exhaustion, unconsciousness or the sea state. Our source for environmental data in this analysis, reference (c), also contains information on survival times and the point when persons in the water may become exhausted or unconscious. This data is based on information contained in reference (d). Unlike the previous graphs, it considers other factors which may lead to death prior to death from hypothermia. This is very important when considering a response standard. We must keep in mind that the survival graphs and data are based on tests with a limited number of test subjects. These graphs are not absolute; they are an aid in the total search planning process. These survival graphs are designed to provide guidance in making survival decisions.

Standards and Survival. As the graph below shows, at the mean water temperature of 64.6°F, expectancy of death from hypothermia occurs over two hours later than exhaustion and unconsciousness; these latter two states may lead to death. Because the hypothermia curve is calculated on calm water survival time, other environmental factors: winds, seas, and air temperature, must be considered for their effect on survival time when using that curve. Although there are no specific data tables developed for each of these, we can conclude with confidence that each of these (based on the means, see Environment paragraph above) will reduce the expected calm water survival time. These factors along with water temperature are some of the factors which lead to exhaustion, unconsciousness and possible death

prior to expectancy of death from hypothermia. Unconsciousness, exhaustion, and possible death at the mean water temperature from the lower curve is ***approximately one and two-thirds hours***. *Because we are concerned with the earliest possible time for a life to be in jeopardy from these environmental factors, the conservative lower curve warrants strong consideration for this purpose.*



Standard - Goal Performance. How well has SAR Program performed in relationship to the SAR Program Goals and SAR Response Standards? The following is CG wide data for FY89 - FY92:

♦ For these four years the program as a whole achieved the following in meeting the program goals:

	Lives Saved Goal - 90%	Property Saved Goal -- 70%
FY89	88.4%	54.6%
FY90	90.3%	59.8%
FY91	93.5%	73.4%
FY92	93.2%	63.0%

♦ For those three years and FY92 partial data, CG boats and helicopters have achieved the following in meeting the response standard:

	Underway within 30 minutes	On Scene within 2 hours
FY89	87.4%	93.3%
FY90	86.9%	92.9%
FY91	88.3%	93.1%
FY92	84.0%	89.0%

Other Relationships. Finally, to discover if there is a relationship between lives lost and saved with time, a regression analysis was done. The regression analysis on the data showed that two-thirds of the variance of the data is explained by time. That is, the number of lives lost and saved have a strong correlation to response time. This is important as we work to determine if adjustments are called for in our SAR Response Standards. If adjustments are made to the response standard, a direct change in lives lost and saved can be expected.

Recommendations for Future of the SAR Response Standard. The continuance of a two hour SAR Response Standard appears **reasonable** based on the SAR statistical data, the environmental data available, the survival data available, and this analysis. The additional information from references (d) and (e) indicate a possible survival time of somewhat less than two hours. However, considering the "guidance" nature of the survival graphs and lacking evidence that our current standard is either ineffective or wasteful, a change does not appear warranted. The SAR Program is continuing to evaluate additional survival information as it becomes available and will include work on survival information and SAR standards as part of the search theory review planned to begin in FY95 as part of the ISARC Project at the R&D Center.

Since the establishment of the SAR Response standard, many advances in technology have been made and many more are in progress. Examples are: faster/more capable aircraft, cutters and small boats; improved sensors; upgrades to CASP; improved environmental data for SAR planners; new satellite-tracked self locating datum marker buoys; and VHF-FM network upgrade. Politics aside, technological advances in SAR equipment the Coast Guard has or is acquiring should allow for reduction in the number of facilities and resources for SAR. Or, by maintaining the number of facilities and resources, result in a better SAR response.

o/s

SEARCH AND RESCUE HIGHLIGHTS

One of the most devastating natural disasters in the United States this century, the Great Flood of '93 caused at least ten billion dollars damage to crops and communities in the Upper Midwest. Over one thousand Coast Guard men and women, including more than 200 Auxiliarists, were instrumental in minimizing the impact of the flood, in human terms as well as dollar values. More than 25 disaster response units deployed on almost 3,000 sorties, assisting local authorities along the upper Mississippi River and its tributaries. Coast Guard Aircraft flew more that 500 flood relief sorties. In all, Coast Guard efforts to protect the public and industry from the flood, and to begin restoring the natural and human resources of the region to normal levels.

* * *

On 31 August, an AIRSTA BROOKLYN HH-65A "Dolphin" with five persons onboard crashed in the immediate vicinity of Ambrose Light that marks the approach to New York harbor. Rescue units, including another AIRSTA BROOKLYN HH-65A and the harbor pilot boat NEW JERSEY, were on scene within minutes of the accident. The Two passengers from the downed helo, both from the National Oceanic and Atmospheric Administration, were recovered quickly, suffering minor injuries. The CG air crewman was recovered and transferred in stable condition to local hospital; he suffered a broken leg, broken arm, and head injuries. After approximately 20 minutes underwater, the CG pilot and co-pilot were extracted from the aircraft by New York City police divers. The co-pilot was dead on arrival at a local hospital; the pilot passed away after a week at the hospital in intensive care. On 1 September, SORREL recovered the helo's airframe.

* * *

On 25 August, GROUP CORPUS CHRISTI, TX was notified of a collision between the 68-foot shrimper GULF KING 12 and the tug TRAVELLER, which was pushing two barges. The collision occurred at the intersection of the Corpus Christi Ship Channel and the Lydia Ann Channel.

Continued on page 16.

Marine Rescue Squadrons of America

By: BMCS J. W. Krzenski, Coast Guard Station Tybee

Upon reporting to this unit in June, 1991, I conducted a thorough review of the available SAR responders within Station Tybee's Area of Responsibility (AOR). I quickly discovered that Station Tybee's AOR has about the same resources that other areas along the Atlantic and Gulf coasts have. Station Tybee area has a county marine patrol, Coast Guard Auxiliary flotillas, Georgia Department of Resources, South Carolina Wildlife etc....

There is one exception to these typical SAR responders, the Marine Rescue Squadrons of America (MRS). Until being assigned as Officer in Charge of Station Tybee, I have never dealt with this very valuable and capable organization.

The origins and history of this unique organization makes for interesting reading. During the Christmas holidays of 1958, six boys set out from the Tybee Fish Camp in two boats, enroute to Little Tybee Island. Four boys were in one boat with all the camping equipment, food and water. The other two boys were in a small skiff with a 2 1/2 horsepower outboard motor. The larger boat's propeller became entangled in the marsh grass, allowing the smaller boat to pass them by. The boys in the smaller boat stated that they would meet at the campsite. When the seaweed was cleared from the larger boat's propeller, they proceeded to the campsite. Upon arrival, they could not find the smaller boat or the two boys. The four boys searched all day with no luck. They returned to Tybee Island and notified their parents.

The Coast Guard was notified but was unable to search the shallow marsh creeks due to the deep draft of their 40-foot UTB.

During a 35 degree, rainy Saturday night, the waters and islands in the vicinity of Tybee were searched by David McCutchen, Jimmy Logan, and Perry Solomon. On Sunday at about noon, near Blue Hole, Mr. Jimmy Logan yelled for his son. He got a response and saw a garment waving. With difficulty, the boys were reached and after being warmed up with hot drinks and blankets, they headed for home.

Realizing that the Coast Guard could not render aid in all circumstances, it was decided that something had to be done. On or about January 15, 1959, Perry Solomon, Tybee Police Chief David McCutchen, and others at Tybee Island formed the "Tybee Marine Rescue Squadron", with Captain Perry Solomon as its leader. Since that date, ten squadrons in Georgia and South Carolina have been organized to perform the mission of search and rescue.

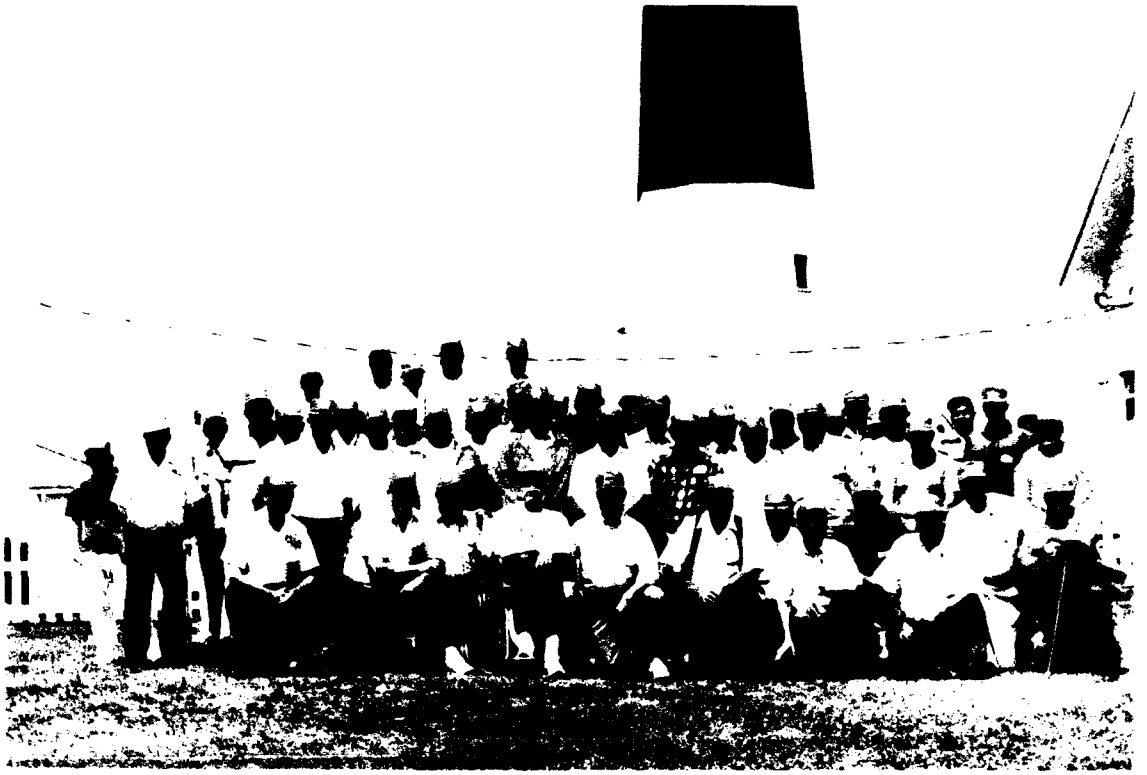
Today they are called the Marine Rescue Squadrons of America. With over 375 members and 110 boats, they perform approximately 300 search and rescue cases a year. They continue to provide a vital service to the boating public. Their members know the back waters and creeks along the Georgia and South Carolina Coasts better than any Coast Guardsmen ever will. They should. Their members were born and raised on these waters. Perry Solomon, the first Captain, remains a member to this day. In 1989 then Rear Admiral Daniell awarded Perry Solomon the Coast Guard Distinguished Public Service Award for having founded the Marine Rescue Squadrons of America.

This organization is most useful to the Coast Guard when responding to inland "overdues." It is not uncommon for them to respond with half a dozen boats. As a result of their large numbers and thorough familiarity with the coastal marsh, creeks, and rivers, the majority of our actual "overdues" result in a Marine Rescue Squadron unit locating the lost boaters safely, returning them to shore in minimal time.

My experience at other stations has been quite different. It was not uncommon at some of my previous units to exhaust our boat crew conducting a search throughout the night, of large expanses of back water marsh, creeks, and rivers, only to have a Coast Guard helicopter locate the overdue vessel on a first light search the following morning.

Additional MRSs would be very beneficial to recreational boaters and the Coast Guard at many other locations along our nations coastline. Any place where there are countless miles of back waters and creeks which are frequented by boaters, is an excellent location to establish a marine rescue squadron.

To find out more about the MRSs you can contact me at Station Tybee (912) 786-5440. *o/s*



Tybee Marine Rescue Squadron, Perry Solomon (Front Row Center, sitting in the wheel chair) received the Distinguished Public Service Award by Rear Admiral Daniell in 1989 for his participation in the founding of the Marine Rescue Squadron.

Search and Rescue Highlights
Continued from page 14

The lead barge was partially holed; its double hull prevented any of its cargo of 10,000 barrels of gasoline additive from escaping. Neither shipping channel was blocked. Gulf KING 12 was damaged by the impact and partially submerged. All three persons onboard the shrimper were lost overboard. Two were quickly recovered with only minor injuries, but the third was missing. Extensive searches by an AIRSTA CORPUS CHRISTI HH-65A, STATION PORT ARANSAS small boats, and by local divers failed to locate the missing crewmember. On 30 August, he was found, deceased, when the fishing vessel was moved by salvors.

* * *

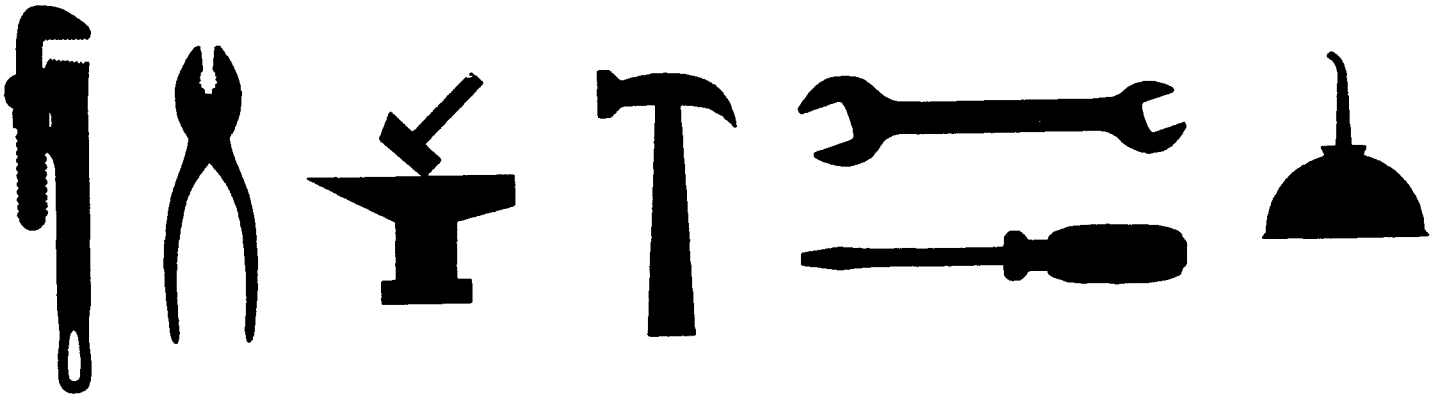
On 2 September, the fishing vessel MARION W was reported overdue to STATION GRAYS HARBOR, WA. The 50-foot stern trawler with three persons on board did not return from fishing off the coasts of Oregon and Washington. On 3 September, an intensive three day search began, On the first day of the search, a raft was located 35 miles off the Washington coast approximately 80 miles north of the Columbia River. The raft was the same make and model the fishing vessel MARION W carried, but there were no survivors found with the raft. On the second day of the search, a life ring from the fishing vessel was located in the same general vicinity as the raft. Fog delayed the launching of aircraft on the morning of the third day for several hours. On 5 September the search was suspended after sorties were completed with negative results. During the Search numerous units were involved including Cutters MIDGETT and ACTIVE, three HC-130Hs from AIRSTA SACRAMENTO, two HU-25s from AIRSTA ASTORIA. Canada rescue 451 also assisted with the Searc!

* * *

On 13 September, Cutter CGC TAMPA rescued five crewmen from a liferaft after their ship, the Honduran motor vessel TROMSO, caught fire ten miles north of the Haitian southern claw. After receiving an Emergency position Indicating Radio Beacon Signal, an airborne HU-25 was diverted to investigate the source of the distress signal. The Guardian's crew located the 130 foot Honduran coastal freighter TROMSO on fire. The ship's crew was found ten miles away in a raft. TAMPA arrived onscene and recovered the merchant crew. *o/s*

Motor Lifeboat Maintenance

By: MK1 Eric Williams, National Motor Lifeboat School



Maintenance is a topic we talk about very little in the Coast Guard. It is hidden in the background, behind operations, training, and yes liberty.

Our Coast Guard-wide maintenance management of MLBs is poor at best. This fact is supported by Standardization Team visits, which show 70 percent of our MLBs not ready for heavy weather.

The MLB community has a hard time keeping a 185 horsepower 6V53 engine running properly. Our current standard of maintenance will not support the new 47' MLB. The speed of this boat demands more horsepower. For this reason, the 450 horsepower 6V92TA engine will require not necessarily more maintenance, but a higher standard of maintenance, to keep this race horse running properly.

How did we arrive at a point where 70 percent of our MLBs are not ready for heavy weather? In my experience training people to maintain and operate the 47' MLB, it is not a talent problem. The Coast Guard has good talent. What I have noticed through experience and exposure to the Stan Team, is an attitude problem.

I firmly believe that workers will always take on attitudes of the leadership. With this in mind let me give a few examples from my own experience.

During an admiral's visit to a small boat station I was attached to as a third class, all hands were present for an open discussion. Budget cuts were big this particular year, and the admiral informed us that the floating units were his funding priority. When I walked out of the meeting, my enthusiasm for Motor Lifeboats had been deflated a little bit.

A 6V53 in the 44 MLB I was assigned to had a heavily pitted cam shaft, which damaged several cam followers. It was my complete desire to tear this engine apart and fix the problem. We had the parts in the parts room, we had plenty of talent in the department, the engine only had 3000 hours. The CO chose to replace the engine, informing us we were not there to do major repairs. I thought to myself at the time, I joined the Coast Guard to learn how to repair machinery, not change oil for a living.

Most recently in my involvement with the 47 MLB project, the Transition Team was making an argument for providing what we felt was a complete training program. Whether the Team was right or wrong is moot, but I heard that a comment from one headquarters office was "the Commandant has icebreakers and buoy tenders to worry about, small boats are a pimple on the Coast Guard's butt, don't sweat it".

I realize these people had good intentions and the Coast Guard interest at heart, but the underlying attitude, small boats are second rate.

I believe this attitude is reflected in our maintenance program, resulting in a lack of training for our MK's

(especially our juniors) and a loss of skill in the MLB community. This is evident by the lack of a Detroit Diesel training program anywhere in the Coast Guard, the elimination of our own overhaul program and the cancellation of the engineering course at the Motor Lifeboat School.

This leaves the MK on his own to figure it out using the manual. Which brings us to our next major problem, information. Current information is vital to apply proper maintenance practices. How many stations purchase new manuals form Detroit Diesel Corporation (DDC) when a new edition is published? The current 6V53 manual was updated in 1990! What year are you on? I ran across a service manual, still in use, printed in 1972, it belonged in a museum. The Coast Guard has no policy or program to update these manuals. This needs to be fixed. Service bulletins are also very important, this is how DDC provides current information between service manual updates. Service bulletins should be required as part of an up-to-date manual.

Engineering training is next on the list of problems. How many units have an established engineering training program required and supported by the command? I would guess not many! We hammer boatcrew training, we have LE training teams come around and teach us the finer points of cuffing and stuffing, DC training teams come around and teach us how to fire fight and patch and plug. Nobody comes around and teaches us how to tune an engine, adjust our throttle controls, troubleshoot power problems, etc.

Why not? Money I would guess is the answer. How many of us have learned over the years it's cheaper to do it right the first time, instead of wrong two or three times. Its a basic fact, you can't have operations without maintenance. A boat crew can not perform at 100 percent if the boat is not at 100 percent.

Out of all the technical skills necessary to maintain a boat at 100 percent, troubleshooting is the most important. Troubleshooting is a learned thought process gained from experience and training. It is not gained by reading a manual. A service manual is written for service personnel who already have experience and background knowledge on the piece of equipment. It was not written to teach someone how to be a mechanic. The old argument that, owning a service manual excludes the need for specialized training does not hold water.

The MLB community is lacking in troubleshooting skills. How many times have you observed, or you yourself participated in a troubleshooting situation where parts were replaced to identify the problem, rather than identifying the problem and correcting it. Sound familiar?

OK, time to jump off the soap box, lets look at some answers.

The Coast Guard needs to change attitudes. Small boats provide an important service, or we would not be designing a new MLB. If an engine is broken, fix it! Don't replace it just because Group will pick up the tab. Budgets are slim these days, the disposable engine attitude needs to go.

The Coast Guard needs to establish an information network, that provides the field with current maintenance practices recommended by the manufacturer. In the mean time, I suggest you purchase a current maintenance manual.

The Coast Guard needs to establish a training program that is centered around troubleshooting. A training team would be an ideal solution, targeting the more junior MK's and passing out current information. If we send people around to inspect stations and point out what is wrong, it would make sense to send people around to teach how its done right.

In closing I would like to say its not all gloom and doom. We have obviously done something right, the 44' MLB has lasted 30 years. The point I would like to make is, we are behind the times and information poor. If we choose to stay this way, and apply it to an up-to-date, high-speed boat, our maintenance cost and frustration level will only go up. *o/s*

Ninth District Develops Preventive SAR Program

By: LT Mark Rizzo, D9 OpCen Controller

The Ninth District Search and Rescue Branch has developed and is currently testing a new "SAR Prevention" program at two prototype Stations in the Ninth District; Station Buffalo, NY, and Station Saginaw River, MI. The purpose of the program is to develop a new approach to boater education by providing boaters with information that is of greater significance for them. By catching the attention of the boater, we hope to instill a stronger desire to learn more about boating safety. We are trying to dispel the notion that high case-loads are something to strive for. Our new philosophy is to lower the incidence of SAR by identifying its causes and then provide information to the public so they can (hopefully) avoid becoming a SAR case.

Each year, prior to Boating Safety Week, a flood of press releases and boating safety pamphlets are disseminated which includes all kinds of national Search and Rescue statistical data. While this information is important, we believe the average boater tends to become complacent with this information and develops a "can't happen to me" attitude. The boating public probably comprehends what the numbers say, but they don't believe they are affected, or the accidents happen where they boat. It's this theory, coupled with the need to make better use of SAR/LE data, that our program is based upon.

We developed a means of providing the boater with local data to tailor an education program based on the most frequent problems in their operating area. For example, we compiled information about groundings, collisions, fires, etc., which happened in specific boating areas. This "Nature of Incident" information was extracted from the SARMIS data base for a period covering the previous two years, and manually collated into a more usable format. We did the same with three years of boarding data for each area. The two data sets were then compared to see if there were obvious trends.

For instance, in one area, 58% of all cases reported were disabled/adrift. Additionally, boarding data for that area revealed 40% of the boats boarded did not have visual distress signals. Therefore, education efforts in this area concentrated on teaching boaters how to properly maintain their boats and, in the event they did break down, the importance of having the proper communications equipment and signaling devices.

Collating and analyzing data sets from several sources for 48 stations was an extremely cumbersome task. Hopefully, the Operational Information System the R & D Center and headquarters are working on will allow end users such as ourselves to extract this type of information with relative ease. It may also allow end users to monitor developing trends and adjust education efforts accordingly.

It was very important to us that the people who would be providing the boater education be included in development of the program. Active, Reserve, and Auxiliary personnel participated in every phase of the prototype program. Workshops were held at a District Officer-in-Charge conference and three regional Auxiliary conferences. Many outstanding ideas were presented, several of which are currently being tested with the prototype program. Some of the other ideas were:

(1) Develop local pamphlets with "shock" value data. Also included are local Coast Guard, emergency and boating safety phone numbers, a maintenance check list and special interest information for that particular area.

(2) Develop Preventive SAR billboards for use at marinas and boat ramps.

(3) Expand Marine Dealer Visitation program and offer vouchers for free Boating Safety classes to new boat owners.

(4) Work with corporations, factories, etc., in order to become part of their safety discussions and lecture series.

(5) Hold distress flare demonstrations and exercises during marine events and/or invite public to watch scheduled training.

Several other outstanding ideas presented, but must be coordinated at the District, Area or Headquarters levels

include:

(1) Ask insurance companies to provide Boating Safety information to boaters they insure.

(2) Change the Boarding Form to include specific information gathering questions related to boating safety.

(3) Increase public awareness of boating safety through better exposure on "reality TV" shows.

(4) Develop computerized boating safety training program.

We are still working on how to evaluate and measure the success of the program. We will need to see several years worth of data before any solid trends can be identified. Currently, the prototype units are attempting to find a way to collect data on boaters who have been involved in SAR and compare it to data on boaters who have been exposed to some form of boating safety education.

Overall, we are very excited about the new program. It has brought on a fresh approach to Boating Safety and has sparked enthusiasm among Active, Reserve and Auxiliary personnel. We are even more excited about some of the bigger projects which have greater potential to bring Boating Safety to a new levels, creating opportunities to reach and educate more people than we have ever been able to reach before. *o/s*

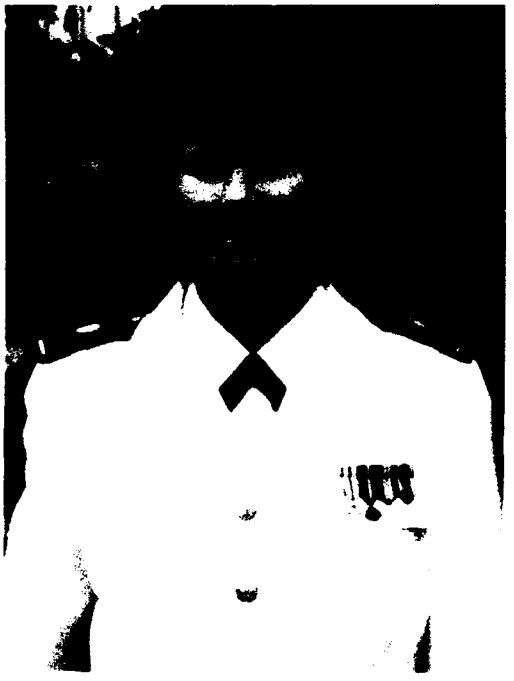
SARMIS: Welcome Aboard

By: ENS Tracey Cooper, G-NRS

Hello, I'm ENS Tracey Cooper – the new SARMIS Coordinator. I arrived at Headquarters in late July after completing 17 fun-filled weeks at Officer Candidate School! I'm a former Chief Radioman with thirteen years active service. In all those years, I've never completed a CG-5151, so SARMIS is totally new to me.

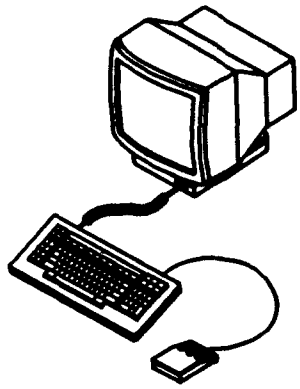
In two months, I've visited almost half of the districts and managed to get to a couple of the units as well. It was a great opportunity to see what's really going on out there and at the same time, I received many good ideas for improving SARMIS.

I am here for your support, so please don't hesitate to call me. Please forward any ideas you have about SARMIS through your District Sar Data Coordinators. I look forward to working with you. *o/s*



SARMIS: New Version Released

By: ENS Tracey Cooper, G-NRS



EECEN began distribution of SARMIS District Sub-System (DSS) 4.0 in late September and is waiting for districts to come up on line before beginning distribution of Data Entry Sub-System (DES) 2.0. The relocation of SUPCEN Brooklyn to Baltimore has delayed the delivery of CTOS 3.3.8 to some districts which is a prerequisite to loading SARMIS DSS.

Some of the changes to DSS are:

→The error message "Number of Reports greater than maximum ARN" will be displayed for actual missing cases.

→Increased size of property dollar amount fields for case background data.

→Add Unit and Delete Unit options have been added to the main menu.

→Unit names have been added to all reports.

→Three additional special studies codes have been added.

→Registration and Documentation fields have been merged into one field.

→Transmission status can now be changed by MUCNO (Multi-Unit Case Number).

Some of the changes to DES are:

→An assistance number report indicates which numbers have been used and which have been completed.

→New screens were added regarding the distressed unit: "Did the vessel sink?" and "Was the aircraft entirely destroyed or lost?". Responses for both questions include: Y/N/Unk.

→Codes were added to corresponding data fields:

(1) Method of notification can now be cellular telephone.
(2) Resource codes for HH60, RG8, and 47' MLB were added.
(3) When accounting for lives, property, and cargo, a new category was added: "Unaccounted for".
(4) False Alarm classification now includes two additional categories: "Suspected Hoax" and "Confirmed Hoax".

→An input data check was added so that property or cargo cannot be listed as lost or damaged unless the severity is listed as 3 (severe).

→Cases can now contain more than ten sorties.

→The flotilla number in the Auxiliary participation screen is now optional.

→For overdues which are not found and not assumed to be false alarms, there's a new choice "Overdue not located, nature unknown".

These changes came from ideas that were submitted a year ago. We are constantly striving to improve SARMIS, so please submit the changes you'd like to see and perhaps they'll end up in the next version of SARMIS. *o/s*

SARSAT

Geostationary Alerting and EPIRB Registration Combine for Quicker Launch, Quicker Rescue, More Lives Saved

By: LCDR G. D. Garrett, G-NRS

Distress response is a race against time. We have to get to accident victims before the environment and/or injuries do. All responses begin with notification. The sooner we know, the better our chances of success.

In the beginning, the primary means of distress alerting was failure-to-return (overdue). "Notification" usually came days, weeks, or months after the last victim perished. Wireless radio provided the first major alerting breakthrough. Early Emergency Position Indicating Radio Beacons (EPIRBs) and Emergency Location Transmitters (ELTs) operating on frequencies guarded by civil/military aircraft complemented radio alerting capabilities. Search and Rescue Satellite Aided Tracking (SARSAT) radically improved alert detection and added an independent distress positioning capability. SARSAT's polar orbiting satellites and 406 MHz emergency beacon technology have improved system reliability, accuracy and integrity, producing "actionable" first alerts within an average of about one hour and generally not more than two hours from the time of incident. We have come a long way in distress alerting and we continue to make progress that counts.

Figure 1 shows survival curves for vessel and aircraft accidents. Vessel accident survival begins to drop off significantly after two hours. Aircraft accident survival drops off more sharply. You can see that getting on scene earlier matters. Savings of even minutes can count.

A few satellites in high altitude (22,000 miles), geostationary (GEO) orbits, operating as a complement to SARSAT's low earth orbiting (LEO) satellites **promise to provide continuous, near immediate real time distress alerting** for all but the polar regions.

The average forty-five to ninety minutes saved by near immediate "GEO" alerting over 406 MHz "LEO" alerting will make a life and death difference in many, many cases.

The U.S. currently operates one Geostationary Environmental Satellite that carries an experimental 406 MHz repeater package. Stationed over the equator at about 112 degrees west at 22,000 miles in space, the satellite "sees" almost an entire hemisphere--from 77N to 77S and 77 degrees of longitude east and west of station. Since the satellite is **always present** (NOTE 1) in its coverage area, emergency beacon transmissions are detected immediately. The same feature that provides for continuous surveillance--being stationary with respect to the surface of the earth--prevents the system from producing a doppler-shift calculated position. However, near-immediate "GEO" alerting used in combination with registration point-of-contact-provided position information will allow many SAR responses to get underway well before the first low orbiting satellite pass. Demonstration and Evaluation operations have clearly proven these capabilities. (NOTE 2) A recent First District case shows the "GEO" advantage.

26 October 1993. All times local. 1315: RCC Boston receives a registered 406 MHz SARSAT alert, with no position, via the NOAA Geostationary Operational Environmental Satellite (GOES). The alert message shows the signal is coming from an EPIRB registered to the F/V BROOKE LEIGH ANNE, with a New Jersey owner/point of contact (POC). Situation: Apparent distress, position unknown.

1317: RCC Boston calls the registration point of contact (owner's wife) to ascertain vessel position and situation. No answer. Group Sandy Hook begins to investigate using vessel and POC information leads. RCC continues to call POC.

1340: RCC reaches POC. POC informs RCC that vessel is believed to be fishing "Mud Hole" off the New Jersey coast. A quick call to a friend produces LORAN coordinates for BROOKE LEIGH ANNE's trap line. WX in the area: Winds: E 25 KTS. Seas: 8-10 FT.

NOTE 1: Unlike the low earth orbiting satellites which can "see" a beacon for only about twelve minutes of each 60-90 minutes. (Average between 70N and 70S.)

NOTE 2: Demonstration and Evaluation Operations:
- o The "GEO" system is not continuously available.
- o All "GEO" alerts are processed through a Canadian ground station.
- o USMCC forwards only registered , U.S. beacon "GEO" alerts.

1351: RCC Boston directs CGAS Brooklyn launch ready helo to investigate trap line area.

1412: Helo airborne. Helo acquires 121.5 MHz homing signal. Signal strength increases en route.

1424: RCC Boston receives second 406 MHz alert, this time with a position, via one of the six currently operational low earth orbiting (LEO) satellites. RCC Boston passes the info to CGAS Brooklyn for relay to the helo.

1430: Helo sights raft with two POB about fifteen nautical miles off Manasquan, NJ. Begins hoists.

1445: Hoists complete. POB confirmed to be from BROOKE LEIGH ANNE; all safe and accounted for.

Initial debrief revealed vessel flooded rapidly, with no opportunity to radio a MAYDAY, crew abandoned to raft, taking EPIRB. Vessel sank in less than five minutes This case was successfully prosecuted on the strength of:

- **a registered, "geostationary" 406 MHz first alert, with no position,**
- **registration point-of-contact provided position information, and**
- **DFing on the EPIRB's 121.5 homing signal.**

The rescue helo was literally on scene (less than six nautical miles/less than 3 minutes away, with a 121.5 DF lock) by the time by the low earth orbiting satellites produced an alert with a position.

RCC Boston used the "GEO" alert and registration information to put a rescue asset on scene more than thirty minutes sooner than would have been otherwise possible. Had the registration point of contact been immediately available, more than an hour could have been saved.

Since BROOKE LEIGH ANNE's crew was well prepared with a good raft and survival suits, the half hour saved **in this case** didn't figure dramatically. Had they been treading water, the half hour could have made all the difference. In SARSAT cases we rarely know what we'll find on scene.

With a "GEO" (or almost any unlocated first alert) and a registration point-of-contact provided "ballpark" position (close enough to have a good chance to acquire the 121.5 MHz homing signal) we've got a prosecutable case.

Already about 35% of 406 of MHz first alerts in the U.S. Maritime Search and Rescue Region (SRR) are detected by the experimental processor aboard the GOES satellite. A more sensitive processor which will be carried by GOES I, the next U.S. GOES launch, scheduled for Spring 1994, together with other system improvements are expected to improve this rate significantly.

The U.S. geostationary system is scheduled to go fully operational during CY94 or early CY95.

Within the next few years the geostationary satellites of several nations will cover the globe between latitudes 77 north and 77 south.

OTHER SARSAT DEVELOPMENTS ON THE HORIZON.

As the size and cost of Global Positioning System (GPS) microchips have shrunk, a number of emergency beacon manufacturers are developing prototype beacons with integral GPS. **These 406 MHz beacons, operating through the low orbiting and geostationary satellites, will produce near immediate distress alerts with distress positions accurate to within 100 meters.** These beacons could find their way to market as early as sometime in CY95.

FAA SPONSORED AVIATION REGULATORY ADVISORY COMMITTEE (ARAC) ELT *WORKING GROUP*

First generation 121.5 MHz ELTs transmit as little as 7-12% of the time in actual crashes and far too often when they shouldn't. 121.5 ELT distress alerts continue to be muted by ELT false alarms and other alerts produced by non-beacon 121.5 MHz sources.

This working group's objective is to develop a draft rule to replace first generation 121.5 MHz ELTs with something that will work. The Coast Guard is advocating a transition to a 406 MHz ELT. Figure 2 outlines the estimated improved survivability resulting from such a transition compared to the status quo, for cases with and without 121.5 ELTs. The aviation survival curve is based on National Tranportation Safety Board data for crashes where some searching was required.

According to best estimates, retrofitting the general aviation fleet with a second generation 121.5 MHz ELT (improved gravity-switch and crash worthiness) would save only about 20 additional lives each year--or only about 3% of the average annual 800 lives lost. Refit to a 406 MHz (or equivalent) ELT would save about 125 additional lives, or about 16% of annual lives lost. o/s

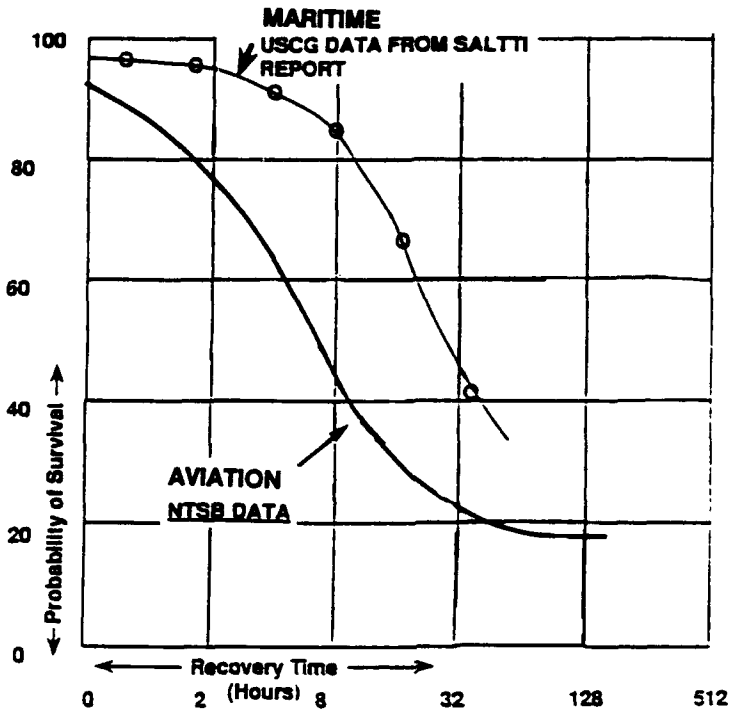


Figure 1. Survival Curves from USCG SALTTI Report and NTSB Data.

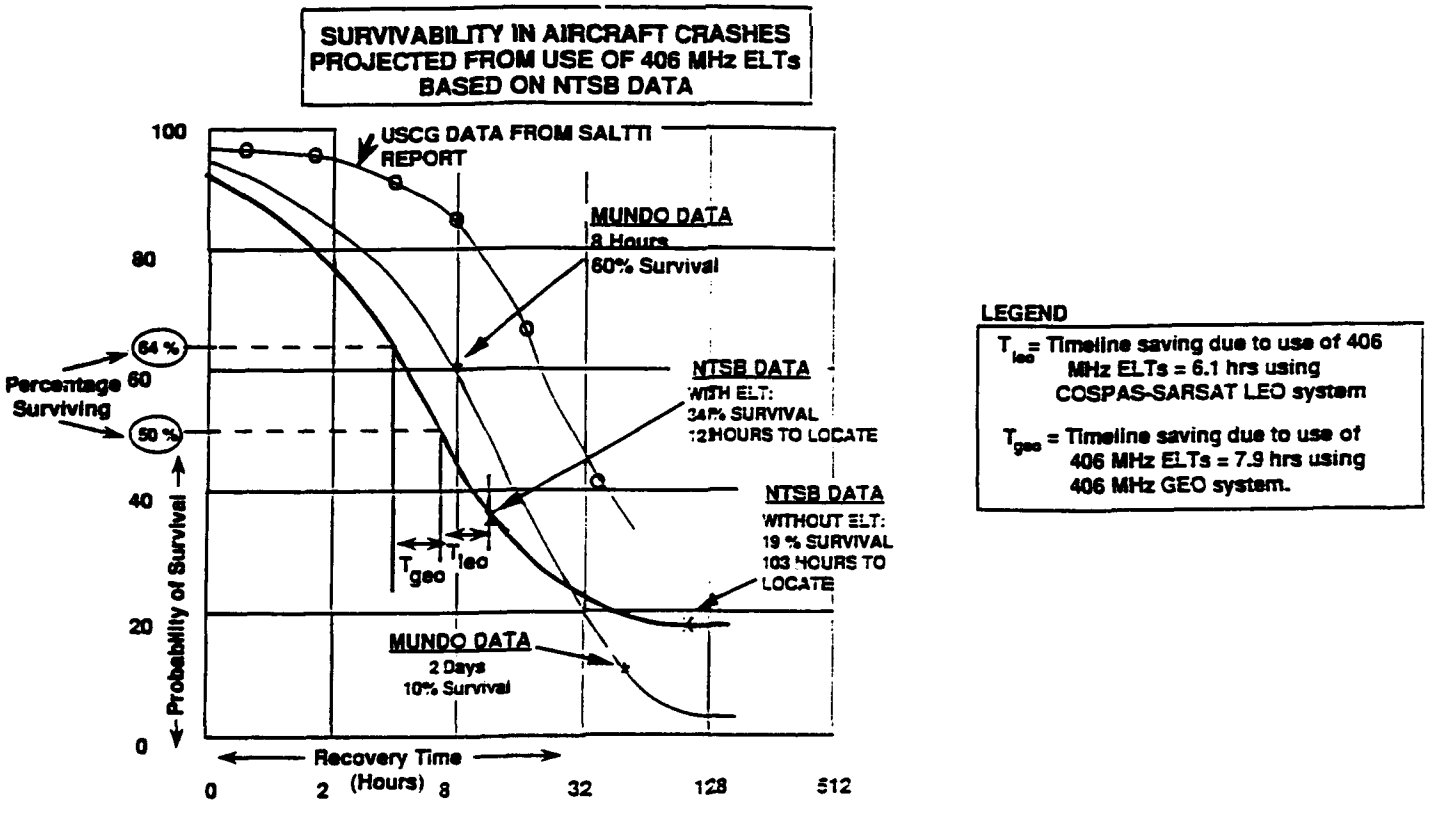


Figure 2. Projected Survival after Aircraft Crashes from use of 406 ELT's

Coast Guard Cutter Helps With Historic Voyage

By PAC Ed Moreth, 14th District

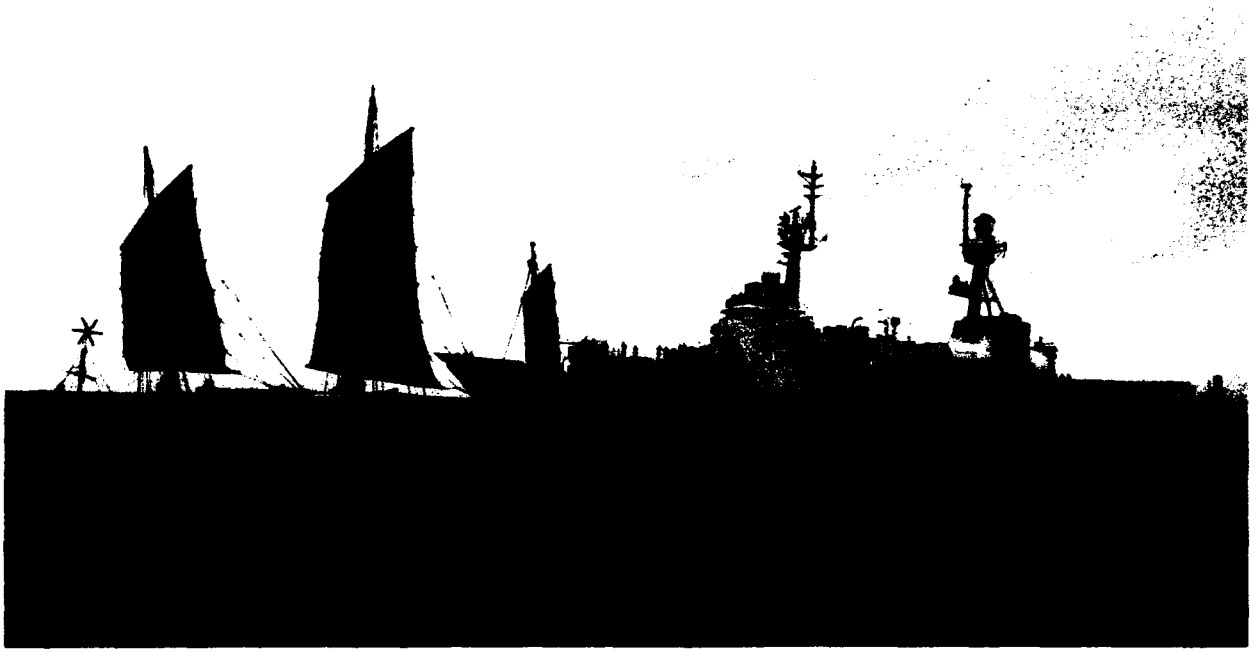
The cutter Jarvis had to delay its Honolulu homecoming to help the crew of a historic replica of a junk-style bamboo raft after its skipper radioed that his boat's rattan lashings were coming apart.

The 60-foot vessel Hsu Fu set sail May 15 in an effort to retrace a 2,000-year-old journey of a similar vessel from China to California. "The entire body of the raft was virtually awash," said Capt. Scott Merrill, Jarvis' commanding officer. "It was like an iceberg, most of it was below the waterline." Merrill said that some of the lashings holding the bamboo logs together were coming apart.

The 378-foot high endurance cutter was on its way home from a two-month patrol off the Alaskan coast when it was diverted to the site of the bamboo boat 950 miles northwest of Hawaii. On Oct. 21, a team from the Jarvis gave the Hsu Fu 1,200 feet of nylon line, 12 gallons of fuel, a sail mending kit, a radar reflector and food. Though the Irish-flagged vessel has an ancient design, it was equipped with six-man life raft, an emergency radio beacon, exposure suits, a VHF radio and a Global Positioning System receiver.

With the exception of boredom, the crew was in good shape and in good spirits, according to the Jarvis. Merrill said he offered each of the five crewmen a ride to Honolulu aboard the cutter, but the crew preferred to continue the voyage. The boat's British master told the Coast Guard that his vessel has been mostly following the Pacific currents and traveling at about two knots. "The ability of the hull to withstand major storms is questionable, but the master stated they have weathered about a dozen gales, up to force nine in the 5,000 miles covered," Jarvis reported. However, Merrill said that if the boat did break up, large sections should continue to float and the crew could stay afloat until rescuers could arrive. Merrill said that with the Hsu Fu's sound hull, crew experience, focus on safety, and the synthetic lines provided by the Jarvis, the vessel has a good chance of reaching its destination.

The Hsu Fu voyage is sponsored by the Mariners Museum of Newport News, Va., and the National Geographic Society. The vessel was expected to arrive along the California coast in early December. *o/s*



CGC Jarvis Assisting Irish-flagged Hsu FU

"May I mumbo dog-face to the banana patch?"

By: LT R. C. Patton, G-NRS

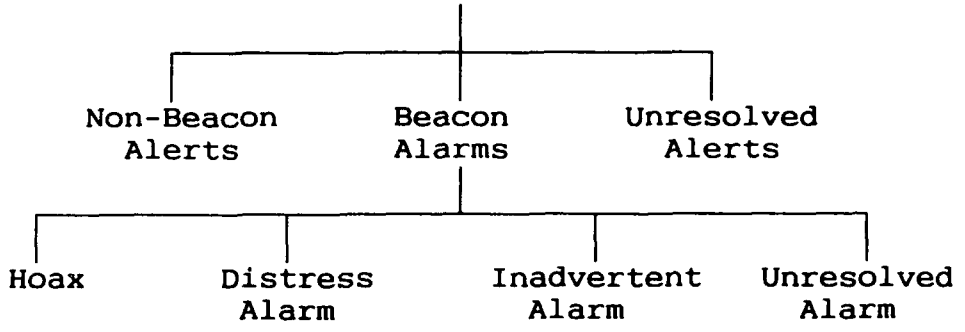
Many of us recall comedian Eddie Murphy's joke about speaking gibberish whenever you're around toddlers - with hilarious results the first day of school...

It's not quite as funny, though, when Coasties are out trying to locate a vessel or aircraft in distress. Standard terminology (including acronyms) can save lives - especially in working with other agencies or foreign governments. The COSPAS-SARSAT Program recognized this early on and developed a standard glossary to keep international SAR communications clear and effective.

The following table lists some key terms you should keep straight. A complete glossary is available from your District RCC ("RCC" is an internationally recognized SAR term) and will be included in the next change to the CG Addendum to the National SAR Manual.

COSPAS-SARSAT Terminology

Commonly Misused Terms	What you meant to say
BAD	GOOD
Hit	Alert
Double Up	Composite
EPIRB or ELT	Beacon
DF the Beacon	Locate the Beacon
Alert or Alarm	Alert



The two scenarios that follow illustrate the point.....

What was said:

"I've got a SARSAT hit for you near Great Salt Pond. Please check it out."

What was meant:

"I received a 121.5 MHz **COSPAS-SARSAT First alert** with the **A-Solution** near Great Salt Pond. Please dispatch a resource with **locating** capabilities to investigate the **Site** and determine whether or not this is

a **beacon alarm**. If it is, respond appropriately. In your report, be sure to include the **beacon location** and the specific reason for **beacon** activation."

What was said:

"When I got the first hit, I didn't know if it was real or not. I noticed the alert plotted on the edge of my AOR and there was an asterisk next to the name of the Search and Rescue Region (SRR), so I called them to see if they needed help. Their controller said they already checked it and it was a false alarm. Incidentally, she said, the EPIRB was on a boat in the harbor – the crew activated it accidentally – and it was 2 kilometers from the SARSAT position."

What was meant:

"When I received the **first alert**, I didn't know if the **A-solution** (computer's primary solution) or the **B-solution** (computer's secondary solution) was the **Image**. Although it was in the **Buffer zone** (between district AORs) and I wasn't the **Primary Rescue Coordination Center (RCC)**, I called the primary's **SAR Point of Contact (SPOC)** to discuss the possible **distress incident** and asked if they needed any assistance. Their controller replied she had dispatched a **locating** team to the **Site** and they had determined the **alert** to be an **inadvertent alarm** caused by removing the **beacon** for storage while it was armed. Incidentally, she said, the **location** was within 2 kilometers of the **Site**."

"May I mumbo dog-face to the banana patch?" I still do not know what that means, but I hope you have a better understanding of COSPAS-SARSAT terminology. *o/s*

SAR IN FOREIGN TERRITORIES

By: LCDR Craig Allen, XO, USCGC RESOLUTE

While on patrol off the coast of Mexico, a 210' WMEC with an embarked helicopter intercepts a distress message. The operator of a Canadian flag sailboat reports that his 12 year-old son suffered serious burns over his head and upper torso as a result of a galley explosion. The boy is reportedly unconscious; his breathing is shallow and erratic. No other vessels or rescue units respond to the Mayday. The operations officer plots the sailboat's position. It lies 2 miles off the Mexican shore -- well within Mexican territorial seas. The nearest EMS facility is in a Mexican city, 3 miles inland.

When the captain arrives on the bridge, he asks a number of questions:

"What is the extent of my duty to respond to a distress involving a foreign vessel in another nation's waters?"

"Can I take the cutter into Mexican territorial waters to render assistance?"

"If so, must I first seek permission from the Mexican government?"

"Can I send the helicopter into the airspace over Mexican waters, and have them medevac the boy?"

"Can it take the boy to a hospital in Mexico?"

"Do I first need to seek permission?"

"What if the helo arrives at the reported position and doesn't immediately locate the sailboat; can it conduct a search?"

1. The Duty to Render Aid: All ship and aircraft commanders have a duty under international law to assist those in danger of being lost at sea. The duty is described in the Safety of Life at Sea Convention (SOLAS) and U.S. law (46 U.S.C. 2304). Under 14 U.S.C. 88, the U.S. Coast Guard is authorized but not required to rescue and aid persons and protect and save property. Commanding officers of Coast Guard cutters, on the other hand, have a duty under Coast Guard Regulations, paragraphs 4-1-7 and 4-2-5, to proceed immediately toward the scene of a vessel or aircraft in distress in their area of operations, and to render assistance until the vessel is able to proceed safely, or until Coast Guard assistance is no longer required. (See also Chapter 3 of the CG Addendum to the NSM.

COMDTINST M16130.2A). A breach of the duty to render assistance may result in disciplinary action. (A former commanding officer of USS DUBUQUE discovered this when he was convicted of dereliction of duty under Navy Regulations. He failed to render assistance to a boatload of distressed Vietnamese refugees.)

2. The Authority to Render Assistance in a Foreign Nation's Territorial Seas: Under international law, a ship has the duty to enter the territorial seas of a foreign nation to render assistance to persons, vessels or aircraft in danger or distress. This duty applies only in the coastal nation's territorial seas, not in its internal waters, and does not depend on the flag or nationality of the endangered craft. Several conditions must be met before the entry is permitted.

First, there must be a reasonable certainty that a person, ship or aircraft is in danger or distress from perils of the sea. Perils of the sea are dangers commonly associated with operating on, over or under the sea. There is no requirement that the peril be life-threatening.

Second, the location of the danger or distress must be reasonably well known. A search may not be conducted in foreign territorial waters or airspace without the coastal nation's permission.

Finally, the rescue unit must be in a position to render timely and effective assistance.

Freedom to assist in foreign territoral waters is more circumscribed for aircraft. In addition to the criteria listed above for ships, before an aircraft may enter a foreign territorial sea, a person must be in danger or distress, and delay in rendering assistance is potentially life-threatening. The perceived danger to life, if aircraft assistance is delayed, justifies entry without prior permission. If the danger is not life-threatening, a Statement of No Objection from the Commandant and coastal nation's consent is required before aircraft entry.

Coast Guard Regulations more specifically define a commander's authority to render assistance to vessels in certain Mexican or Canadian waters. Paragraph 15-2-3 of the Regulations implements bilateral treaties between the United States and those nations. (Other bilateral SAR treaties are listed in Appendix B of Vol I of the NSM). When faced with a distress involving waters and craft covered by one of the treaties, commanders are directed by the National SAR Manual, (article 1222.B), to follow the provisions and procedures under the treaty rather than the general international provisions.

3. Entry into Internal Waters or Overlying Airspace Freedom to render assistance under international law applies only in a coastal nation's territorial seas, seaward of the baseline, not in its internal waters or the airspace above internal waters. Therefore, the helicopter in the above scenario could medevac the injured crewmember while the vessel was 2 miles off the Mexican coast. It could not transport him to the hospital until clearance was granted by the Government of Mexico and a SNO is obtained from Commandant.

4. Ask Permission or Make a Notification? Vessels or aircraft need not seek permission from the coastal nation before exercising assistance entry in coastal waters. In fact, Commandant specifically directs that permission will not be requested. See COMDTINST 16100.3, SAR in Foreign Territories. The coastal nation should be notified of the entry, both as a matter of courtesy and to alert rescue forces of the coastal nation, but the communication should be clearly phrased as a notification, not a request.

In the above scenario, the cutter or helicopter should not seek permission from the Mexican government to MEDEVAC the injured crewmember from the vessel while in coastal waters; but they would need to obtain permission to bring him into Mexico for treatment. Coastal nation clearance will usually be requested by the SAR Coordinator, through the Defense Attache in the coastal nation. Anticipating a need for immediate hospitalization, the cutter would therefore alert their SARCOORD, to initiate the request process. o/s

References:
1. National SAR Manual, Vol I, COMDTINST M16120.5A (para 1221-1222)
2. CG Addendum to NSM, COMDTINST M16130.2A
3. SOP of Operational and/or Tactical Commander
4. The Naval Commanders' Handbook on the Law of Naval Operations, NWP-9 , para 2.3.2.5
5. SAR in Foreign Territory and Territorial Seas, COMDTINST 16100.3
6. Coast Guard Regulations, COMDTINST M5000.3.B (para. 4-1-7, 4-2-5, 15-2-3)

Editor's Note: In recent years the Coast Guard has used the term "Right of Assistance Entry (RAE)" in relation to conducting SAR operations in foreign territories. However, such entry is not universally recognized as a "right" under international law. Therefore, an upcoming amendment to the Coast Guard Addendum to the National SAR Manual will discuss this topic in terms of "duty to assist."

Rescue and Survival Systems Notes

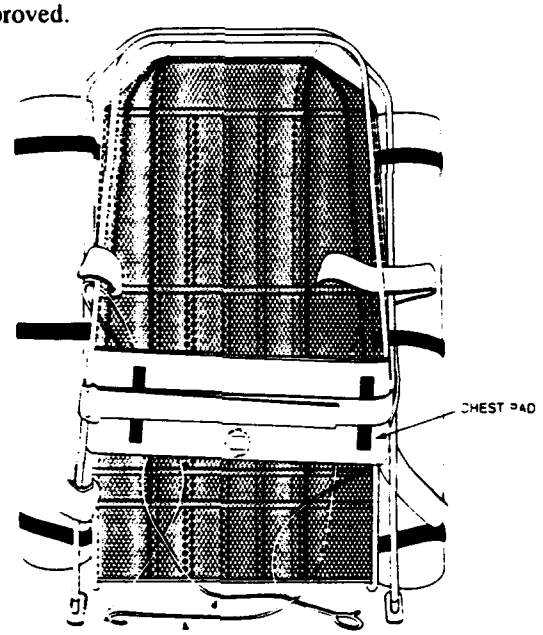
By: CWO Mark O. Hyde, G-NRS-2

WHAT ABOUT FOLDING LITTERS?

There is some confusion about which litters are authorized for boats and cutters. I hope to clear it up with this article.

All Coast Guard cutters and Coast Guard stations are required to carry one hoistable litter on board. The litter aboard small boats may have, but is not required to have, a hoisting harness. All hoistable litters must be constructed of steel and have an approved hoisting harness. Coast Guard aircraft are now authorized to hoist approved surface litters. Coast Guard fabricated hoisting harnesses are no longer approved.

The only approved *Coast Guard installed* hoisting harness is the Lifesaving Systems Corp. Part Number 193, used with the Navy Type 1 steel litter NSN 6530-01-315-4784 or NSN 6530-00-042-8131. The Lifesaving Systems Corp. Part Number 404 Medevac II Litter and Part Number 406 Medevac IIF (foldable) with factory attached harnesses are also approved as direct replacement litters. Yes, you may replace your old litter on your boat with a Lifesaving Systems Corp. Part Number 406 Medevac IIF folding litter.



Coast Guard Approved Foldable Litter in the Folded Position.

THE BIG QUESTION, EMT?

What is the EMT policy at stations? Some questions I am asked range from the EMT mission at the station, to how many are required at each station, and how interested personnel can become an EMT.

This article will attempt to answer those questions. First I'll talk about stations. One EMT is required at each station. The station's EMT's mission is for internal use, to take care of injuries aboard the station, maintain the stations EMT kit, first aid training, etc. He is NOT required to go out on the boat during a MEDVAC, although, if available, stations should utilize their EMT during medical emergencies.

If a station has more than one Coast Guard trained EMT, we will continue to support all EMT's ongoing

training required to maintain NREMT certification. We will not send additional personnel to initial training at Coast Guard EMT school, although we encourage local EMT training through the tuition assistance program. Additionally, if a unit feels they have a special need for more than one Coast Guard trained EMT, they may submit a letter to their respective program manager asking for a waiver.

The following are program manager's EMT manning levels:

G-KOM has determined that HS personnel involved with SAR or EMS operations or that are on independent duty, must be EMT qualified.

G-OAV has determined that each ASM/Rescue Swimmer must be EMT qualified.

G-NRS has determined that a minimum of one EMT be assigned to each station.

G-NSR has determined that a minimum of one EMT be assigned to each WLB class vessel in addition to a HS with like qualification. One EMT shall be assigned to each Aids to Navigation team.

G-OCU has determined that a minimum of one EMT be assigned to each cutter. This function may be performed by the independent duty HS assigned to the vessel.

FREE CUTTER RAFTS

Supply Center Curtis Bay has 85 Navy surplus 25-man life rafts in excellent condition. If your rafts onboard your cutter are over 10 years old this is an option to get new ones. To get these rafts shipped to your unit for free, all you have to do is put in a requisition to Supply Center Curtis Bay, the stock number is 4220-01-F86-0136.

(PML) PERSONNEL MARKER LIGHT SUPPLY PROBLEMS

The government over-bought the PML (NSN 6260-01-086-8077) during the Gulf War. The PML has a shelf life of 3 years and it now has resulted in product past expiration date in the stock system. Units are authorized to procure their PMLs from the manufacturer, OMNIGLOW Corporation (201) 357-3446 - POC - Bob Cozzo, until the stock system problem is resolved.

SDU5/E STROBE LIGHT SWITCH BOOT

ASM1 ROSCHER from Aviation Technical Training Center Elizabeth City has found a source for the rubber switch boot for your SDU5/E strobe lights. He states his unit has a 33% failure rate of the lights because of torn switch boots. If any of your SDU5/E lights have a torn switch boot you may order one from ACR Electronics (305) 981-3333. ASM1 ROSCHER also states the Navy stock item manager is entering the switch boot in the stock system and a NSN will be assigned shortly.

SURFACE AND CUTTER SWIMMER HARNESS/VEST

We have approved an integrated swimmers harness and inflatable vest for all you wannabe HOORAH boys and girls. This new harness/vest will replace the current swimmers harness and the SAR-1 inflatable life vest. I am working on getting a stock number for this item, if you want to be the first on the block to receive one you may order it directly from Lifesaving Systems Corp. (813) 645-2748 specify Part Number 486. *o/s*

Update on Selected International SAR Activities

By: Dan Lemon, G-NRS-3

ICAO's Bangkok Asia-Pac Regional Air Navigation meeting in April-May 1993 involved 80 states and several international organizations. Mr. Dan Lemon from G-NRS chaired the SAR Working Group. Some SAR regions were revised. Many recommendations were developed to raise the level of SAR services in the Asia-Pacific region.

Negotiations are moving ahead on the Canadian SAR agreement again. This is being done to update a previous agreement.

A successful meeting of North Atlantic RCCs was held in June in France. RCC New York participated.

The U.S. and Canadian Coast Guards provided primary support to a round of "secret" SAR talks among the Arab and Israeli states involved in the Middle East Peace Process in September. The purpose was to build trust and cooperation in an area not so sensitive as arms control and security. The session, held in Sydney, Nova Scotia, coincided with the signing of the PLO-Israeli peace accord on September 13, and was hailed as a breakthrough.

The Coast Guard sponsored several large meetings and an international ship exposition AMVER exhibit in St. Petersburg, Russia in September to improve SAR awareness and promote AMVER. Participants were overwhelmingly responsive.

During the week of October 11, the first meeting of the Joint IMO-ICAO SAR Working Group was held in London. This meeting will deal with issues of common concern to maritime and aeronautical SAR. The U.S. will be represented by the Coast Guard. (IMO and ICAO, agencies of the United Nations, are the International Maritime Organization and the International Civil Aviation Organization, respectively).

Plans are underway to close WESTPAC "RCC" which is operated by the U.S. Air Force in Kadena, Japan. Details are being worked out on how some of that RCC's functionality and resources can be merged with RCC Honolulu.

ICAO Bangkok is sponsored a SAR seminar in Fiji for Pacific states in September (RCC Honolulu sent a representative), and ICAO Mexico City is sponsored an Eastern Caribbean Working Group in October that updated its aeronautical SAR Plan for that area. The Federal Aviation Administration attended.

Preliminary reports are that the COSPAS-SARSAT Joint Committee meeting in Australia in September was quite productive. Among its many actions was development of a proposal to eliminate the EPIRB maritime location protocol.

IMO's Sub-committee on Radiocommunications will begin its next meeting on November 29. Homing for INMARSAT E EPIRBs, the usefulness of SARTs (Search and Rescue Radar Transponders), and harmonization of aeronautical and maritime distress communications will be among the topics discussed.

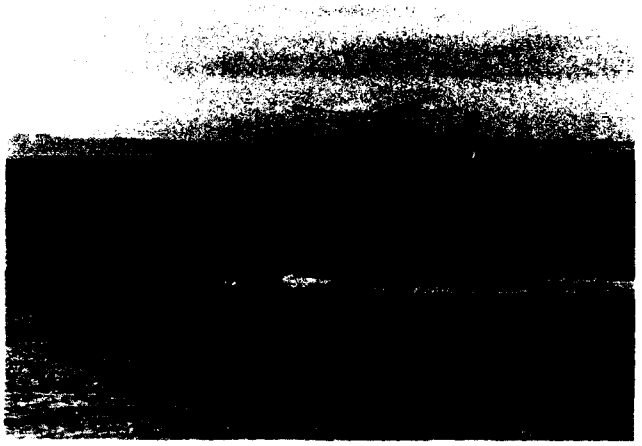
The Coast Guard participated in a full scale exercise in August in the Bering Sea with Russia involving a simulated commercial passenger aircraft ditching. It was moderately successful, and coincided with a successful real ditching and pilot rescue at night 660 miles west of San Francisco. *o/s*

U.S. Coast Guard / Russian SAREX

By: PA2 Don Atwell, D17

Commercial mariners are familiar with the rescue techniques of the U. S. Coast Guard. The sight of a Coast Guard aircraft lowering a rescue basket or dropping a pump is common.

Bering Sea fishermen from Alaska and commercial tankers transiting the North Pacific Ocean, however, may be hours away from the nearest U.S. rescue unit. In a life or death situation, they may have to put their lives in the hands of people from a very unfamiliar place - the former Soviet Union.



Top Picture: USCG "Dolphin" hoists survivor during exercise.
Bottom Picture: CG crewmember salutes Russian soldier.

The U.S. Coast Guard is trying to become more familiar with Russia's rescue techniques by participating in joint search and rescue exercises.

This year, Coast Guard Air Station Kodiak and the Seattle-based Cutter *Midgett* participated in a joint search and rescue exercise Aug. 18 with the Russians off the coast of Petropavlosk.

The Air Station sent a C-130 filled with American search and rescue experts to meet with their Russian counterparts. There were also representatives from the U.S. Air Force, Alaska Air National Guard, Alaska Army National Guard, the Federal Aviation Administration and Alaska Airlines.

Since the lifting of the Iron Curtain, more commercial airliners are flying into Russia. Officials from both countries agreed that an airline disaster scenario would be an excellent test of their ability to work together.

According to the drill scenario, an airliner crashed about 25 miles off the coast of Petropavlosk. Survivors from both countries were in liferafts, waiting to be rescued. Coast Guard and Russian rescuers had to find them.

Officials from the two countries had to develop search areas and determine the most appropriate rescue techniques. The two countries, once bitter enemies, had to cooperate. The cooperation during the planning stages of the drill was great, according to officials on both sides. However, problems became apparent as the drill began.

Coast Guard CDR Gerry Donohoe, of the National Search and Rescue School in Yorktown VA, said the Russians could use work on search patterns. "They do not have any search procedures," he explained. "They are at the same place we were 200 years ago. We have 200 years experience. These guys are just learning. We planted the seed. Now we have to get some sunshine and water on those seeds and get things growing."

Communications were also a problem. During the exercise, Air Station Kodiak's HC-130 was supposed to fly a search pattern and drop a liferaft down to survivors. Unfortunately, the C-130 was not granted take off clearance. "We felt like we were here as an

important part of the exercise," said Coast Guard Lt. Jake Ellefson, the HC-130 pilot. "But, due to bureaucratic red tape, we were not allowed to fly. We were really disappointed and frustrated."

During a debrief Aug. 19, Anatoly Sidorenko, vice president of the Far East Shipping Company, apologized for the HC-130 oversight. "Somehow it got mixed up in Moscow," Sidorenko said. "Russia is a very big country." Sidorenko was heavily involved in planning and organizing the exercise.

Planning and conducting searches clearly was not among the Russian rescuers' strong points. According to Donohoe, it's when they arrive on scene that the Russians do their best work. "We have a lot to learn about their rescue techniques," Donohoe said. "The rescue part was incredible."

After watching some of Russia's interesting rescue techniques – which included helicopter hoists and parachute jumpers – all eyes turned to the sky as a Russian airplane demonstrated a particularly impressive technique. In the back of the airplane, three men strapped themselves into a fiberglass rescue boat. Below, survivors watched intently as the Russian aircraft first dropped a marker and made another pass. When the door opened the second time a drag parachute shot out the back of the airplane. It was followed by the boat.

Four parachutes opened a short while later, and the boat and three crewmen drifted slowly down to the "crash." Once on the surface, they disconnected the parachutes, started the motor and picked up a survivor, who they transferred to the *Midgett*.

"We were particularly impressed with the rescue boat drop," said Coast Guard Capt. Kirk Colvin during a debrief held Aug. 19. "But we think they are crazy," he joked. Colvin is the head of search and rescue for the 17th Coast Guard District.

"I think all of the American delegation feels much more confident now after seeing what the Russian rescue services can provide," said Colvin. "And I hope they feel the same." *o/s*

Russian "Helix" prepares to hoist a Rescue Swimmer.

Russian airdropped rescue craft rendezvous with USCG RIB.

Risk–Taking; Is It Worth It?

By: LT B. A. McIntosh, G–NRS–2, Boat Crew Professionalism and Training

CDR W. E. Hanson, G–KSE–4, Vessel Safety Program

RISK: To expose to the chance of injury, damage, or loss... Risk is inherent in our job, it always will be. We put ourselves at risk performing Search and Rescue, Maritime Law Enforcement and many other mission areas on a daily basis. In fact, the Coast Guard's history is filled with story after story of heroic rescues in dangerous circumstances. The old adage "You have to go out, but you don't have to come back" symbolized the traditional view of risk–taking.

But this headstrong concept of risk–taking is too shortsighted in a quality organization. **Risk management**, not risk–taking is what is expected in today's Coast Guard. How much risk does a coxswain, a boat crew, or the On Scene Commander take? Identification and evaluation of safety risks are critical to the planning and execution of a mission.

An effective mission planning process will ensure that safety risks are identified, evaluated, and addressed by performing the following actions.

o Define the tasks based on mission requirements.

o Question information or ideas as they relate to mission accomplishment.

o Discuss long and short term plans for the mission.

o Identify the impact of unplanned events on the mission.

o Structure tasks, plans, and objectives related to the mission.

o Critique existing plans for potential problems/risks.

Critiquing your plans potential for safety risk requires assessing hazards in terms of severity, exposure rate, and probability of occurrence.

o Severity is the potential loss from unplanned events: personnel injuries; chemical exposures; and/or equipment damage. Equipment damage has routinely been a drain on the service. The ratio of personnel losses to equipment losses in the afloat community has been about 1:20. In other words for every dollar paid for direct personnel costs, twenty dollars were paid for equipment repair or replacement.

o Exposure rate can be the time exposed, the number of resources (people and/or equipment) exposed and/or the frequency, number of times, your resources are exposed to the risk.

o Probability is the likelihood of the loss being incurred. Ultimately what you want to do is lower the level of risk to an acceptable level so that you can safely perform your mission. In assessing risk levels there are five areas of command responsibility that must be examined for potential risks.

o Equipment: Is it functioning properly and will it be reliable throughout the planned operation?

o Environment: What will be the impact of weather and sea conditions on operations and what change is forecast?

o Situation: Is the situation clearly understood or does it require compiling added information to infer what is happening? Is it constantly changing? Is it complex or straightforward?

o Operation: What are its objectives and how critical are each? Is time a constraint?

o People: Are they properly trained and capable of meeting the operational demands (e.g. affected by fatigue, physical or mental stress)?

Risk Management begins with mission planning and must be a continuous process throughout the mission. Between 60% and 80% of all reported mishaps are caused by human factors, mostly not recognizing that the situation had changed and/or making poor decisions. Clearly there is a need for a uniform and universally applied risk assessment and management process to ensure that we all "do come back".

We initiated Human Error Accident Reduction Training

(HEART) in 1991 to address this process. This two-day, exportable training provided tools to identify human factors in navigational mishaps and how to avoid recurrence. The processes outlined above are discussed in this training along with others. So far 1400 Coast Guard personnel have attended. Current efforts are to integrate elements of this training into many existing curricula for coxswains, OINCs, PCOs, and select service schools, including SAR School. *o/s*

Information On High Sulfur Fuels

By: MKC A. Guild, Group Long Island Sound

I received a letter across my desk today regarding Blue Dye in Bunker Fuels. The letter was drafted by D1, SSIC 4400 dtd 23 Aug 93. It seems as of 1 Oct 93 the EPA has mandated the use of a blue dye in Marine Grade Oils (MGO) and F76 fuels with a sulfur content over 0.05 percent by weight, and mandated that vehicles licensable for highway use low sulfur fuel (below 0.05). This regulation could have an impact on some of our units.

F76 is the Navy's standardized preferred fuel for all shipboard power plants (Diesel engines, Turbines, and Boilers). This fuel is the North Atlantic Treaty Organization Code "F76". It's described by MIL-F-16884 FUEL, NAVAL DISTILLATE and was formerly known as Diesel Fuel, Marine (DFM).

The Naval Engineering Manual COMDTINST M9000.6A states what fuels are authorized for Coast Guard diesel engines. It specifies DFM (MIL-F-16884H) NATO "F76" or if unavailable, Commercial #2 Fuel oil meeting FED Spec VV-F-800C may be used. The Naval Engineering Manual also stipulates a minimum centane rating of 40 and a minimum flash point of 140 degrees, and goes on to add, any fuel with a flash point less than 140 degrees cannot be safely handled and therefore is prohibited from use on our vessels.

Evidently the addition of this blue dye (which is blended with xylene solvent) lowers the flash point of fuels. As noted above, this could have a serious safety implication for a unit using this fuel.

In a survey of Group Long Island Sound Units it was discovered our current fuel has a sulfur content of between .3 and .5. Our suppliers also stated that by 31 Sep, it would have a sulfur content of .05. So basically we won't receive the blue dyed fuel.

OK so what does sulfur do to us. Most diesel fuels contain sulfur. How much, depends on the crude oil the diesel came from, or the refiner's ability to remove it. Sulfur and sulfur by-products, namely sulfurous and sulfuric acid cause corrosion inside our engines. The type of corrosive wear attributed to high sulfur content can also cause accelerated oil consumption. Fuel-sulfur damage can cause piston ring sticking, corrosive wear of valve guides, piston rings and liners. Additives in our oil contain alkaline compounds which are formulated to neutralize these sulfur acids. The measure of this reserve alkalinity in an oil is known as its Total Base Number (TBN). The higher the value the better.

If we purchase diesel from commercial sources that also sell for highway use our sulfur will be limited to .05. However, if procured from Defense Supply Points, it's possible that the sulfur content will exceed the new EPA requirement and quite possibly contain the dreaded blue dye syndrome which we do not want.

I recommended you check your diesel fuel supplier and insure your fuel meets the requirements of COMDTINST M9006.A and that the sulfur content is below 0.05. *o/s*

U. S. Coast Guard Maritime Sar Assistance: Clarification of a Sensitive Policy

By: LCDR Wm. Dean Lee, G-NRS

BACKGROUND. The existing Maritime SAR Assistance Policy (MSAP) is the result of an effort which began as an authorization bill enacted by the 97th Congress in 1982. It directed the Commandant to "review Coast Guard policies and procedures for towing and salvage of disabled vessels in order to further minimize the possibility of Coast Guard competition or interference with...commercial enterprise." The review was directed because of congressional concern that Coast Guard resources were being used unnecessarily to provide nonemergency assistance to disabled vessels -- a task that could be adequately performed by the private sector. The current MSAP represents a decade-long series of compromises between the Coast Guard, the Congress, the commercial towing industry, and the Coast Guard Auxiliary. The MSAP is a compromise in the strictest sense of the word, for no single entity is completely satisfied. It is probably because of this, not despite it, that the policy works.

For the typical field operator, whether Coastie, commercial provider, or Auxiliarist, the history behind the MSAP is not particularly of great importance. In most cases, a good working knowledge of the EXISTING policy will suffice. However, in order to fully understand and accept the wording of it, one must understand how it evolved. We all recognize that the MSAP is not a perfect document. In many areas it is purposely ambiguous, but that is simply reflective of the compromises that have taken place through ten years of policy evolution. Problems often arise when individuals or groups interpret the MSAP to fit their own particular situation or personal agenda. This, of course, contradicts the aim of the policy and creates unnecessary conflict among those for whom it was intended to serve. It is important to remember that there is only one policy and, consequently, only one correct interpretation of its aim.

The desires of those who use and implement the policy are somewhat in conflict; i.e., while each desires that service to the mariner be maximized, each has a different perspective on how this can be done. As a consequence, each iteration of the MSAP has received unusually close scrutiny from all involved. It has been a give-and-take process that has culminated in a policy that, although not universally liked, is generally accepted as a fair and workable concession, i.e., no clear winners, no clear losers. The bottom line, occasional complaints notwithstanding, is that the Commandant is satisfied that the existing MSAP policy works, that it is fair, and that it is the best possible compromise between three groups with conflicting ideas and/or agendas. Therefore, there are no immediate plans to change it.

The current policy is contained in Chapter 3 of the COAST GUARD ADDENDUM TO THE NATIONAL SEARCH AND RESCUE MANUAL (COMDTINST M16130.2A). The last major revision of the MSAP was in 1988.

NONEMERGENCY SAR; THE "DISCOVERY CLAUSE".

By far, most inquiries/complaints received regarding MSAP abuses deal with nonemergency SAR situations. Most recently, several field commanders and Auxiliarists have asked for clarification and/or revision of Section A.5.d. of the MSAP. This section deals with Auxiliary vessels who "discover" disabled vessels while on routine patrols. Specifically, the policy states that:

"...When an Auxiliary vessel on routine safety patrol or otherwise on orders discovers a vessel requesting assistance, but not in radio contact with the Coast Guard, it should relay the request for assistance to the Coast Guard operational commander and MAY undertake to provide assistance if capable. If a tow is

undertaken, the Auxiliary vessel is required to notify the operational commander of the identity of the vessel, the location of the vessel, and the destination to which the vessel is being towed. No Auxiliary vessel may undertake the tow of another vessel unless the Auxiliarist is reasonably assured of the safety of both vessels and the persons on board..."

The above section of the policy is particularly sensitive, and is the end product of a sustained negotiation/compromise effort on the part of all concerned parties. Essentially, this section authorizes the Auxiliary, in "discovery" cases only, to undertake tows in nonemergency situations. Coast Guard operational commanders dislike it because they feel, as SMC, that they are left out of the decision making process on determining whether or not an Auxiliary vessel is "capable" and whether or not her crew "may" render assistance. The commercial towing industry dislikes it for obvious reasons, i.e., they feel that they are being "robbed" of a potential customer.

This "loophole" was negotiated, it is intentional, and it is a measure that the Auxiliary worked long and hard to achieve. Where SAR cases are "discovered" by Auxiliary facilities, the MSAP intends that the Auxiliarist, not the SMC, will make the judgment as to whether he/she can safely assist. Once the Auxiliarist has evaluated the situation, section A.5.d. of the MSAP requires that he/she inform the Coast Guard unit controlling operations about the situation and intended actions. Permission to undertake those actions is NOT required; the MSAP places that decision making authority with the Auxiliarist. Remember, however, that we (i.e., the Coast Guard and the Auxiliary) are bound by the policy to deliver a towed vessel, with or without direction from the SMC, to the NEAREST safe haven -- and ONLY to the nearest safe haven. If a boater wishes to have his/her vessel towed elsewhere, he/she will have to negotiate such services with a friend, good samaritan, or a commercial provider of his/her choice.

Having said the above, we - Regular and Auxiliarist - are one Coast Guard family. Our aim in all missions should be the same. Group Commanders and Auxiliarists need to be sensitive to each others concerns. If there are abuses, each entity has a hammer to use. For example, Group Commanders can, and will, withhold patrol orders for Auxiliarists who intentionally ignore or abuse the MSAP policy. Conversely, Coast Guard operational commanders and commercial towing providers will also be held accountable, in different, but equally effective ways, for abuses of the policy on their part. The key is to follow the policy as it is intended, to seek clarification where necessary, and to collectively ensure that the disabled mariner gets fair, reasonable, and CONSISTENT service throughout the United States.

OPERATIONAL SAR STATISTICS. During FY92, the Coast Guard received 52,645 calls for assistance. Of those, 42,797 were non-distress cases. The number of calls for assistance, as well as the ratio of distress/non-distress calls, have been constant for several years. Almost 96% of all cases occurred within 20 nautical miles of the coast or on the Great Lakes and Inland waters.

The Coast Guard Auxiliary continued to play a vital role in search and rescue activities during FY92, performing 6,672 sorties (7.5% of the total) during 6,498 cases.

Because there are no reporting requirements, tracking of those cases handled by commercial providers is difficult. Only those calls for assistance that were initially made to the Coast Guard and later handled by a commercial assistance provider are captured by our SARMIS data base. We have no way to track cases otherwise handled by commercial providers. However, unofficial surveys with commercial providers indicate that they may handle between 30,000 and 35,000 cases per year.

Inquiries concerning the Maritime SAR Assistance Policy should be directed to: Commandant (G-NRS-1), 2100 Second Street SW, Washington, D.C., 20593-0001. *o/s*

32' PWB Replacement

By: Ensign L. W. Clayborne, G-MPS

The tasking and expectations placed on our MSOs are constantly on the rise, whether it's performing daily tasks of harbor patrols, boarding vessels at anchorage, investigating a maritime disaster, or monitoring the cleanup of an oil spill. Manpower and resources are at a premium, with never enough to go around. The aging 32' Ports and Waterways Boat (PWB) has been tasked beyond its original design limitations and became a burden rather than an asset in accomplishing marine safety missions.

21' PWB Twin-Engine Outboard

The 32' PWB was placed into service in 1978 and is now at the end of its design life (15 years). It is expensive to maintain, labor intensive to operate, and not capable of responding to remote oil spills. Of the 52 PWBs originally assigned to M units, only a few remain in service. In looking to replace the 32s, a survey of district boat managers and MSOs was conducted in 1989 and again in 1991. The surveys consistently indicated the fields' desire for a new 20'-22' and a 26'-28' range aluminum hull boat to support routine Marine Safety missions, as well as to respond to incidents like the Exxon Valdez oil spill.

In FY92, $2.6M in AC&I funds were approved to replace the aging 32' PWB's. Program criteria for selecting replacement boats were: air transportable, trailerable, and capable of operating in diverse operational environments while still minimizing support cost (e.g. replacement parts, man hours).

The plan to implement this project was initiated during the FY92 OPSTAGE budget with a total of 28 PWBs identified for replacement. Initially, plans were to transfer funds to each district and allow the boat manager to purchase the M boat resources needed for that district. However, a nonstandard boat management review of MSOs discovered that M units had 93+ boats in 28+ different configurations filling 75 allowances. To stop the unauthorized increase in unit boat allowances, and to comply with the Commandant's policy to eliminate the proliferation of nonstandard boats, the decision was made that the replacement boats would be centrally purchased for pre-designated units.

Using Coast Guard Headquarters (G-MPS) as the centralized point of procurement would ensure standardization of new boats and all equipment (e.g. engines, electronics, trailers, survival equipment, etc.) among M units. Also, purchasing from existing GSA schedules and standards would reduce cost and ensure

compatibility with existing Coast Guard resources. Replacing the 32' PWB with a standard boat would also ensure that Operations and Maintenance funds (O&M) would continue to support the resource.

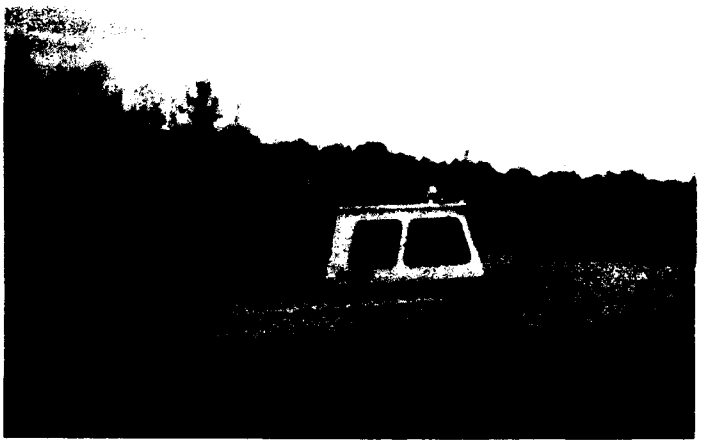
It was evident that because of different operating areas/mission needs, a single hull replacement for the 32' PWB was not appropriate. In January 1992, the decision was made and approved by the Chief of Staff, that two hulls one in the 20'-22' range and another in the 26'-28' range would replace the 32' PWB.

The 21' SeaArk VC Navigator (TANB) was chosen as the replacement for the 20'-22' range. It was decided that the larger (26'-28') boat would be designed by G-ENE and purchased through a full and open competitive bid process.

The 21' VC Navigator was chosen as the 20'-22' range replacement because there were 76 Navigators (TANBs) already in the Coast Guard standard boat inventory. It is a proven hull, and it could be purchased on GSA schedule. The hull remained the same on the first eight PWB's as on the TANB, though some changes were made to the TANB configuration. A cabin was incorporated into the design for protection from the environment and outboard engines were installed versus the TANB's inboard/outdrive. The outboard engines were chosen to reduce maintenance man hours, cost, availability on GSA schedule, and compatibility with existing resources. Because of available field maintenance support, compatibility with existing equipment and resources, the ST-50 depth sounder and other electronics equipment were purchased from GSA schedules as standard equipment.

Phase I began in July of 1992 and concluded in August of 1993 with the last of the 21' VC Navigators being delivered to MSO Pittsburgh. The first eight 21' PWBs purchased came with the original TANB hull design and a single 150HP Johnson engine. During construction of the first boats SeaArk enhanced the hull design of VC Navigator (TANB). The new hull is the VC Navigator, Commander series.

Although the original VC Navigator (TANB) hull was proven, it had not been updated in many years. The new Commander's deep vee hull features a 20° deadrise aft, 52° forward, wide chines, lifting strakes and a flared bow which provides a fast, smooth, and stable platform. After evaluating the new version of the hull, we decided to procure it for the remaining 21' boats which were destined for the Second District. These boats were outfitted with twin 100HP Johnson engines in response to riverine operational needs. Also, to reduce maintenance cost and future man hours, the Commander Series exterior hull paint requirements were deleted except for anti-following bottom paint and the Coast Guard stripe. A boat alteration has also been issued by G-ENE to remove the exterior hull paint from the TANB's in use and applies to the original 21' PWB replacements.



21' PWB Single Outboard

Phase II began with G-ENE designing a 28' hull and preparation of a statement of work (SOW). A design specification was chosen to guarantee that the boat would meet Coast Guard needs. The design specification route was also chosen because the Maximum Order Limitations (MOL) on GSA schedule purchases would only allow HQ to purchase 3 boats per year. At that rate, it would have taken 5 to 6 years to complete the project and would not have met the Commandant's directive to standardize the small boat fleet.

The final design and draft construction specifications for the 28' boat are presently in concurrent clearance within headquarters. After the clearance of the construction specification sheet, the package will be offered to vendors for a full open and competitive bid process. Delivery of boats is anticipated to begin during the 3rd QTR of FY94 with the completion of Phase II in the 1st QTR of FY95.

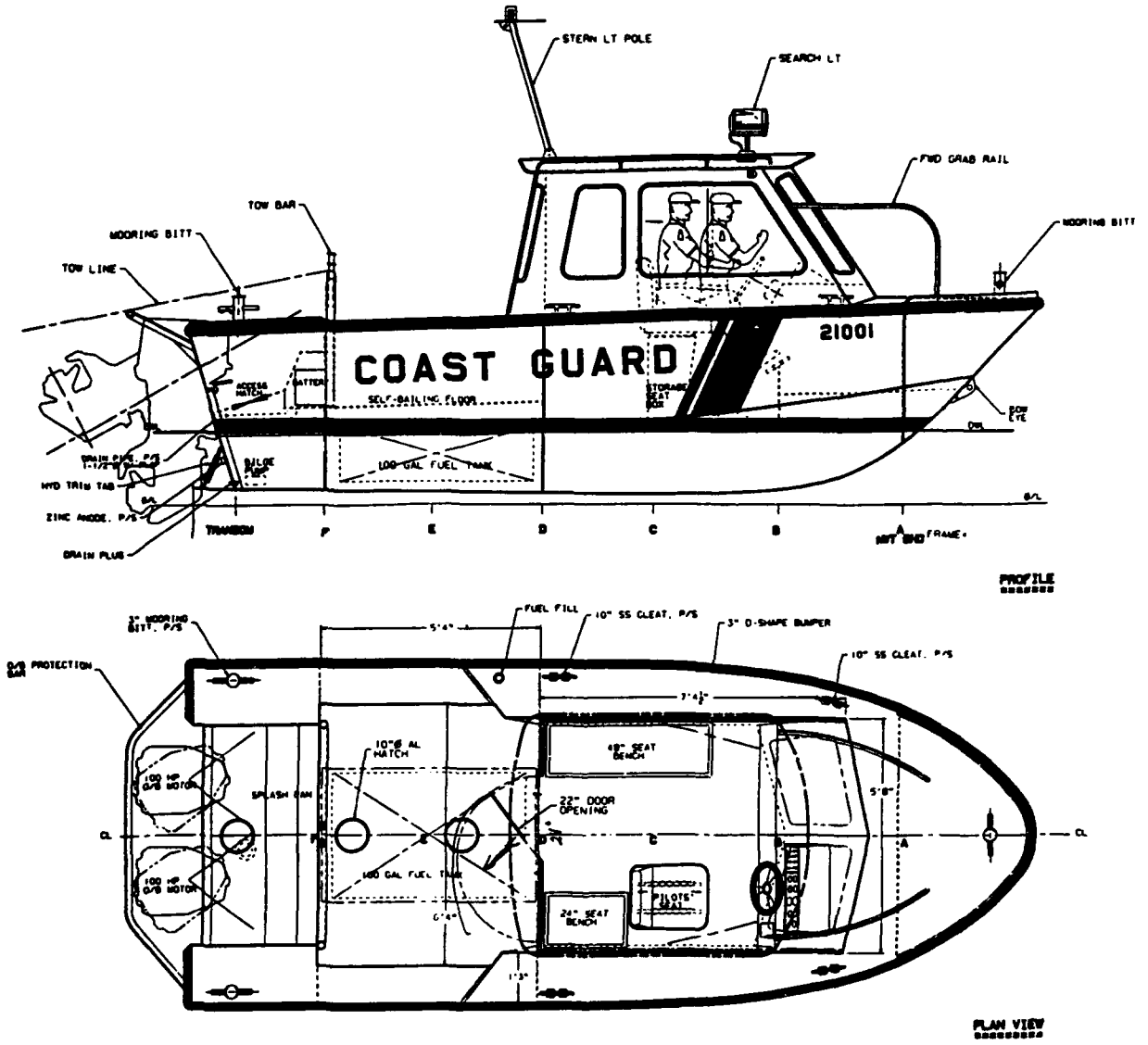
Upon completion of this procurement, both the 21' and 28' PWB's will become the "standard" boat resource at Marine Safety units. Through attrition and in conformance with allowances, all boats at "M" units will be either the 21' or 26'-28' PWB. It is also the desire of G-M, at the completion of this project, to transfer oversight of all G-M boats to G-N and their field management experts, namely, the district boat managers.

As you can see, the process of buying new boats, isn't always as simple as picking them off of the GSA

schedule. When Federal acquisition requirements are considered, along with overall needs of all Coast Guard operating programs, it is clear that the boat(s) you end up with are the product of much negotiation and research.

Nevertheless, the new PWBs have already proven themselves during the summer '93 Flood Ops as well as in response to coastal marine safety and response incidents. They should, unlike their predecessors, continue to prove themselves over time, while offering the reliability, flexibility, low operating cost, and minimal maintenance required for today's Coast Guard.

o/s



Profile and Arrangement of the 21' PWB

Helicopter–Boat Hoisting Safety

By: CWO Wendall F. Bishop, G–KSE–4

Recent mishap notifications from field units alerted us to an apparent increase in mishaps involving Coast Guard helicopter hoists from CG vessels. This prompted a search of the MISREP (Mishap Report) database to analyze the history of reported hoisting mishaps. The search concentrated on reports from air stations, boat stations, and cutters. 48 hoist mishaps were identified, with 35 occurring in the past 5 years. The 35 recent mishaps formed the basis for our analysis.

43% of hoist mishaps involved injuries to personnel. Most of the people injured were tending a line or the hoist rig from the deck of a vessel. Fingers and hands were amputated, dislocated, crushed, pinched or otherwise injured in 35% of personnel injury mishaps. 35% of injuries were to people being hoisted or lowered in a basket or litter, usually because hands and fingers were not kept inside the basket. Two line tenders lost fingertips when fingers got caught in slings; two others were hoisted overboard when clothing appendages made good attachment points. Head injuries resulted when unhelmeted personnel were struck by the hoist rig. Surprisingly, none of the reported injuries involved electric shock from discharge of static electricity. This may be attributed to the emphasis on helicopter static shock hazards given in crew training – – hazard awareness works when the hazards are known.

49% of hoisting mishaps involved the hoist rig or cable becoming fouled on the vessel structure. Masts, lights, antennas, railings, and other hull fittings were the usual snag points. Fouled cables often damaged the hoist basket frame, airframe hoist supports, and vessel appendages. Five snags resulted in a parted hoist cable. In one event, a hoistee was dropped 15 feet to the deck and later drowned when his vessel capsized. In two events, the cable recoiled into the helo main rotor assembly.

63% of hoisting mishaps occurred during hoist training involving Coast Guard helicopters and boats/cutters. Over half of these occurred at night, when visual acuity is poor. Nighttime training is necessary for crew proficiency, but the added confusion of bright lights, altered depth perception, limited field of view, and unpredictable relative motions make an already hazardous evolution more so. Adverse conditions such as unfavorable weather, restricted maneuverability, absence of qualified crewmembers, and less–than–optimal equipment condition are justifiable reasons to postpone training.

Situational awareness and miscommunication were common factors in several mishaps. Noise, rotor wash, sea spray, vessel motion, and a perceived sense of urgency all add confusion to a tricky evolution. It's easy to get caught off–guard. Speech is hampered not only by noise, but by concentration on other critical tasks (sensory overload). Reliance on visual cues is increased. A mistaken hand signal, a misunderstood command, or failure to relay vital information have often been the critical error in these mishaps.

Crew team coordination is essential in a hoisting evolution– among the aircrew, among the boat crew, and between the two crews. The chemistry doesn't just happen– it's the result of training, experience, and the confidence that comes from knowing your job, knowing your teammates, knowing what to expect, and being prepared for the unexpected. Here are some recommendations:

– Members from boat stations/cutters and air stations within the same OPAREA should occasionally meet face to face for familiarity and to discuss their expectations during joint operations. Land a helo at the base or send a boat crew to the air station and make a day of it. Promote camaraderie and team effort. Dispel the old black–shoe/brown–shoe rivalry, although a friendly softball or volleyball game is OK.

– Ensure that vessel and air crews are fully briefed prior to arrival of the helicopter on scene. Review the planned evolution, individual and team roles, placement of personnel, safety hazards and precautions, Personal Protective Equipment (PPE) requirements, and communications (radio, verbal, and visual signals). Discuss contingencies such as when/how to abort a hoist attempt and emergency breakaway procedures.

– Ensure all loose gear and Foreign Object Damage (FOD) hazards are securely stowed well in advance. Pay close attention to potential snag hazards in the hoist area and make a special note of those that cannot be

eliminated, such as cleats and dogs. Conduct a second, cursory check for hazards just prior to the helicopter's arrival.

- Ensure that all boat crew members have donned helmets, goggles, survival kits, and appropriate PFD's or antiexposure suits. Take notice of clothing articles that present snag hazards, such as waist straps, draw cords, harnesses, etc. Rings and watches should be removed.

- Keep unnecessary personnel clear of the hoisting area. Having extras on board for training is fine, but crowding the hoist area increases confusion and risk.

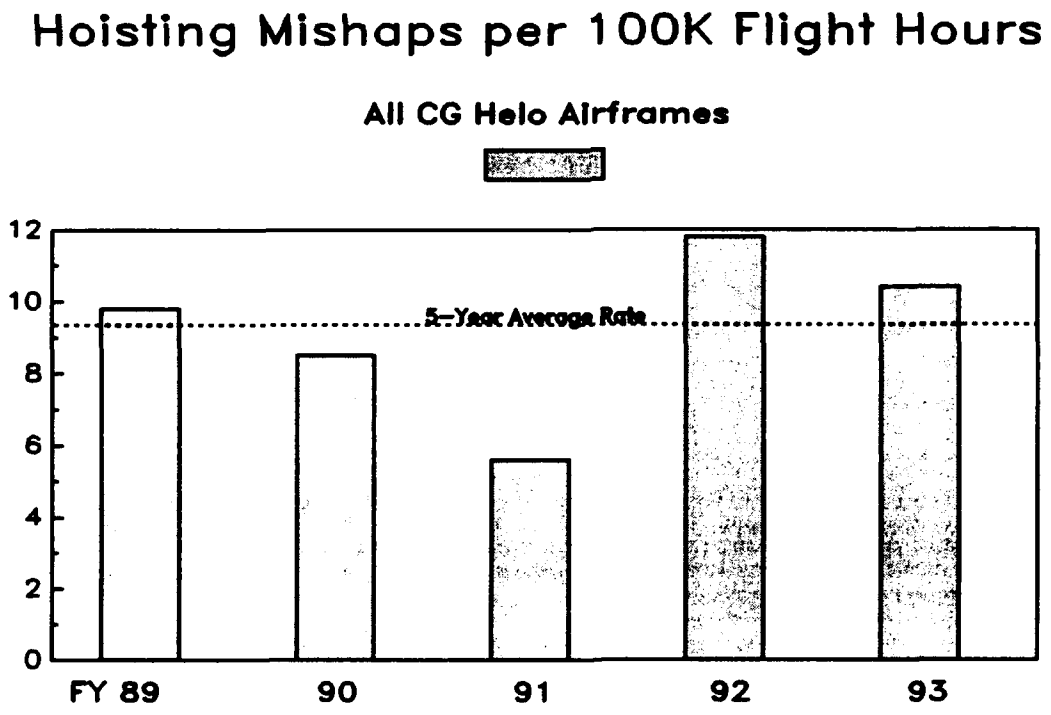
- Avoid shining lights in a way that could blind the helicopter or boat crew, particularly when the hoist rig is being lowered to the deck.

- Keep trail lines and hoisting cable in sight at all times. Remain alert to potential fouling on clothing and hull fittings.

- Be extremely careful of hand and finger placement; expect that the hoist rig may be violently jerked from the vessel. Be wary of sharp edges, rope burn hazards, bights in lines, and notch and snag areas. Persons being hoisted should be instructed not to grab the hoist cable, hook, or sling and to keep all body parts inside the hoist basket, if used.

- Hoisting under adverse conditions should only be attempted under true emergencies, and then only after a careful risk assessment. Nighttime training hoists should only be conducted under otherwise ideal conditions. Live hoists should be limited to those that are mission-essential. Do not hesitate to abort a hoist, particularly a live hoist, if in doubt about personnel safety.

Our ability to hoist people in desperate situations is a vital lifesaving tool and not without risk. The vast majority of hoisting evolutions are pulled off expertly and without incident. Some mishaps were an unforeseeable, justified risk of doing business. Most, however, were attributed to preventable human error. When hoists are carefully planned and executed, risk is minimized and we share the pride of a mission well-done. *o/s*



Graph of CG Helicopter Hoisting Mishaps per 100K Flight Hours

Cuban SAR Case

By: ENS Bruce Tetreault, USCGC Confidence

During our most recent patrol in support of Operation Able Manner, USCGC CONFIDENCE was involved with a SAR case which highlighted what seemed to be a significant improvement in Cuba's spirit of cooperation with the U. S. Coast Guard for prosecuting search and rescue within their territorial sea. On 28 September 1993, USCGC CONFIDENCE received a call on Channel 16 for assistance from a Honduran coastal freighter, M/V Son Of David, reporting themselves disabled, adrift, and taking on water approximately 4 NM southeast of Cabo Masai, Cuba.

CONFIDENCE was immediately diverted by CTU, CGC CAMPBELL, to evaluate the situation, but was directed to stay outside Cuban territorial waters. CONFIDENCE established communications with the disabled vessel which reported they had controlled the flooding but were now adrift approximately 1 NM from shore and were in danger of grounding. CTU then directed CONFIDENCE to provide immediate assistance to the vessel before it ran aground.

CONFIDENCE arrived on scene and took the disabled vessel in tow due to the proximity of shoal water and our inability to repair their engineering problems on scene. District Seven sent 3 telexes to the Cuban Border Guard who responded that their units were alerted of the SAR situation. The Cuban Border Guard then reported that a unit had arrived on scene but could not locate either the CONFIDENCE or the disabled vessel. District Seven immediately passed an updated position to the Cuban Border Guard via voice report to the Havana Operations Center. CONFIDENCE remained in Cuban waters with the tow for approximately 5 hours while awaiting arrival of the Cuban Border Guard. District Seven then directed CONFIDENCE to tow the disabled vessel to a safe anchorage in the vicinity of Cap Du Mole, Haiti to enable the master to effect repairs.

As CONFIDENCE was towing M/V Son of David towards Cap du Mole, District Seven received another telex from the Cuban Border Guard stating that they would be able to send a unit after the Coast Guard rescue had been completed. Approximately an hour later CONFIDENCE was approached by a Cuban Zhuk class patrol boat. The patrol boat made an identification pass, took station approximately 1 NM astern of the tow, and escorted the CONFIDENCE into international waters. The CONFIDENCE attempted several times to contact the Cuban vessel via VHF-FM Channel 16 with no results. After CONFIDENCE, with the disabled vessel in tow, departed Cuban waters, the patrol boat discontinued its escort.

Another telex was received from the Cuban Border Guard after the CONFIDENCE had departed Cuban territorial waters stating that they had dispatched their patrol vessel to establish communications with the Coast Guard vessel but were unable to do so. The Border Guard stated they were going to analyze their communications to ascertain the cause of their inability to communicate with the CONFIDENCE. They closed their telex by expressing their appreciation for the cooperation established between our two services in the rescue of the disabled vessel.

The next morning, CONFIDENCE towed the M/V Son of David to a safe anchorage in Cap Du Mole, Haiti. Even though the Cuban Border Guard did not actually assist with the SAR case due to communications problems, this incident did show an increased level of cooperative efforts for SAR between Cuba and the United States government. Hopefully, this cooperation will continue in the future, making the USCG's job much simpler when operating in the vicinity of Cuba.

o/s

Fire on Tampa Bay, Lessons Learned

By: LT R. E. Brogan, CO, USCGC SITKINAK

CGC Sitkinak Firefighting in Tampa Bay

NOTE: This article contains actions that do not fully comply with the Commandant's policy on firefighting and current thinking on risk assessment. Although the actions taken were well meaning and nobody was seriously injured, we must state that by publishing this article, we in no way condone or encourage similar action. An explanation of POLICY and direction on firefighting is at the end of this article.

On August 10, 1993 cutter SITKINAK from Key West, FL and working for Group St. Petersburg, FL (GRU St. Pete) was On Scene Commander for one of the worst fires in Tampa Bay history. When we were called at 0615 that morning, we did not know we were going to be involved in such a large case. The lessons we learned may not be new, but definitely warrant reconsideration. It's easy to lose sight of them when involved in a major incident.

BACKGROUND.

On the morning of August 10, 1993, at approximately 0548 the tug Fred Bouchard, pushing barge B-155 (overall length about 500 ft, with approximately 7 million gallons of No. 6 heating oil) was inbound

Tampa Bay. The tug Seafarer, pushing barge Ocean 255 (overall length about 600 FT, with approximately 8 million gallons of jet fuel, diesel oil and gasoline) was overtaking the Bouchard tug/barge. The M/V Balsa 37 (350 FT bulk carrier with cargo of phosphate) was outbound. A collision ensued. The Balsa 37's starboard beam and the Ocean 255's starboard bow made contact. As the two vessels slid down each other's starboard side, a spark ignited jet fuel on the Ocean 255. The Balsa 37 and B-155's port bow then collided. Results: The Fred Bouchard and B-155 ended up on the North side of the main ship channel. B-155 was holed in the port bow spewing No. 6 oil. (estimated spill: 300,000 gallons). The Balsa 37 ended up south of the channel, anchored and taking on water, with a gash in the starboard side running almost the entire length. The Seafarer ended up aground, north of the channel approximately 500 yards from Fort DeSoto beach. Ocean 255 was afire, just aft of amidships, starboard side. All 11 Seafarer crew abandoned ship within minutes and were safely recovered.

ACTION.

SITKINAK arrived about 2 hours after the accident. We immediately assumed On Scene Commander (OSC) and were directed by GRU St. Pete to put a Rescue & Assistance (R&A) team aboard Balsa 37 to "prevent" it from sinking. After the team was aboard, we tasked a 41' UTB to standby and we proceeded to the Ocean 255 to join in firefighting with three UTB's and two fire department (FD) boats. Shortly after that we were notified by GRU St. Pete that CG Forces had been activated. After our initial efforts to cool and extinguish the fire with foam were ineffective, we backed out all CG units, requested more commercial firefighting assistance and waited for a plan of attack from the Captain of the Port (COTP). Throughout the remainder of the day until the final plan of attack was received and all units were in place, we continued to cool the hull along with various vessels. At 1930 we were relieved as OSC by the CGC DECISIVE. We continued fire fighting/hull cooling efforts. After the fire was out, we continued cooling until 0300 on the 11th. We were released from the scene and anchored nearby for crew rest. Later, we were directed to enforce a safety zone and at 1230, were released from the case.

PERSONNEL SAFETY ISSUES/CONCERNS.

- When we arrived at the Ocean 255, three 41' UTB's were vigorously fighting the fire with their fire monitors. Personnel on the monitors wore no protective clothing. At times, the UTBs maneuvered within feet of the flames. As OSC, initially we did not have the UTBs move back. Our first firefighting pass and attempts with the UTBs to get foam on the fire were unsuccessful. We then realized the magnitude of the situation and the possibility for disaster. We had all the UTBs move back a safe distance.

- Lessons Learned: Personnel safety should never be sacrificed. If a sudden wind shift or explosion had occurred, the results could have been disastrous, especially for the unprotected personnel on the UTBs.

- Recommendations: Our efforts to extinguish a fire of this scale were fruitless. Our best course of action would have been to try to keep the fire from spreading and to cool the hull until a plan of attack had been established. Units on scene eventually did this for about 8 hours. Additionally, 41' UTBs should, at the very least, be outfitted with fire helmets, flash hoods, gloves and red DC jerseys. These items can be placed inside the fire helmet and easily stowed. A fire fighting ensemble (FFE) and oxygen breathing apparatus (OBA) would be ideal. UTBs respond to many vessel fires and it would seem to be prudent to have crew members completely covered to help prevent any possible personal injury.

The SITKINAK firefighting team all wore protective clothing (FFE's, helmets, flash hoods, gloves and red DC jerseys). OBA's were not used because we stayed upwind of the flames and smoke, and hose tenders reported no problems breathing. On two occasions while cooling the hull however, small reflashes occurred and we were engulfed in fumes, causing us to back out. During the entire event, no indications were received from anyone of the possibility of personal injury due to Benzene poisoning. Professional fire fighters fought the blaze all day without breathing apparatus. We found out about the dangers after we returned to port when we were all directed to urinalysis screening to detect possible Benzene poisoning.

- Lessons Learned: Once again, never sacrifice personnel safety. Normal firefighting procedures call for OBA's, but since we had good air exchange and stayed upwind, we chose not to use OBA's. Next time we will not take chances!!

- Recommendations: As OSC you must continue to seek information on possible dangers to personnel and ensure the information gets passed. During unusual cases or one of this magnitude, Marine Safety Offices (MSOs) or Operations Centers (OPCENs) in charge must find out any possible dangers to personnel and pass that information on to the OSC immediately!

SITKINAK crew members fought the fire on and off for over 16 hours. We had 3 regular crew gone (2 on leave, 1 with the Coast Guard rifle team) and 3 others on the Balsa 37 (R&A team) for over 8 hours. We were augmented by one CG Reserve Machinery Technician. Early the next morning, after being on scene for over 20 hours, we had people falling asleep, hoses in hand, while cooling the barge.

- Lessons Learned: Don't leave yourself shorthanded. Too many crewmembers gone from a small unit have an obvious adverse impact. Fatigue is very important. Although initially everyone was responding to the case on an adrenaline rush, eventually people hit a "wall". Trust your instincts. When you feel too tired to go on, most likely your crew is already at that point.

COMMUNICATIONS.

VHF-FM voice communications with GRU St. Pete and the on scene CG units were very reliable. Due to the high volume of voice traffic on the working frequencies, however, it became impossible for bridge watchstanders to keep the communications log current.

- Lessons Learned: Circuit discipline is a must to control the number of units and agencies involved in a large case. Don't hesitate to order "silence on the net" to regain control, and use the circuit for emergency or operational traffic only. Keep plenty of handheld radio battery packs on charge and change them out regularly. We got about 1 hour or so on each.

- Recommendations: If capable, use several VHF-FM frequencies for on scene coordination. GRU St. Pete designated Channel 21 for use with the Balsa 37 and Channel 22 for use at the fire. This worked very well. Additionally, tape recorders may help take the burden off watchstanders trying to keep radio logs.

At about 1530, I got a request from the FD command center at Fort DeSoto to join them in a meeting about the fire fighting effort. All major state and local agencies were represented by senior personnel. I was surprised to see no one from Coast Guard Forces there. After talking with GRU St. Pete Operations via cellular phone, I passed several Coast Guard issues and eventually came to an understanding with the FD as to "who" was in charge of the overall effort. Though this worked, I'm not sure it was the best arrangement. I would have much preferred staying aboard SITKINAK vice going ashore for 4 hours. In my opinion, a senior member from the MSO would have been the ideal person to represent the CG at the FD command center, working directly with those planning the "final assault".

- Lessons Learned: Not every case is the same, but during this one, the need for a CG representative at the mobile command center was very apparent. This would have facilitated the flow of information between the command center and OSC, and would have kept us informed of plans being made to fight the fire.

- Recommendations: Ensure the Coast Guard is represented at <u>all</u> command centers during cases that involve many state, local and federal agencies.

We gave periodic voice Situation Reports (SITREPs) to GRU St. Pete on channel 22 VHF-FM. This worked well as it would have been too difficult to send record message traffic.

- Lessons Learned: A 110' WPB acting as OSC for a <u>major</u> SAR case, even with message processing capabilities, will be hard pressed to send periodic record message SITREPs as required.

- Recommendations: SAR Mission Commanders be aware of the time involved with drafting message SITREPs when working major cases. Weigh the benefit of having OSCs send voice SITREPs vice record message traffic.

<u>ADDITIONAL POINTS TO PONDER</u>.

- <u>Know your Assets</u>: As OSC you should have a good working knowledge of the capabilities of all assets under your tactical control, especially during cases involving numerous agencies. When units report in and request tasking, have them brief you of their capabilities, endurance, etc., even if you think you know them. I found out that 41' UTB's only have the use of one engine to maneuver while firefighting... Important information to know while maneuvering close aboard to fight the fire! When we arrived, there were four UTBs, various other CG boats, Florida Marine Patrol (FMP) units, sheriff marine units, and fire department boats already on scene. By the time we were relieved as OSC, some 20-25 assets were on scene, including CG Auxiliary vessels and commercial tugs. Also, don't be afraid to release assets if they are not effective or are not needed. The initial response was to get as many vessels possible out to the scene, and I don't disagree with that philosophy, but as the day wore on, it was obvious that many of the smaller boats were not going to be much help. We did release a few units after several hours on scene, but could have sent more home or to a staging area allowing them to rest until they were needed. This would have also lessened congestion in the immediate vicinity.

- <u>Use other agencies</u>: We had representatives from FMP and the sheriff's office aboard for most of the day.

This worked well as they briefed us on the capabilities and status of their units.

G–NRS comments: We agree that we were fortunate that "no fatalities or serious injuries occurred during the accident and subsequent firefighting effort." As shown by other articles in this issue on **risk assessment,** *further discussion is in order.*

CG firefighting raises controversy and emotions. Program managers (Marine Safety, SAR, and Health and Safety) and facility managers (Cutter, SAR and Engineering) are reviewing the CG Firefighting Assistance Policy. This policy, as it applies to an event as described, is outlined in Chapter 8, Volume VI of the Marine Safety Manual (MSM COMDTINST M16000.11). The current CG Addendum to the National SAR Manual (COMDTINST M16130.2A makes no mention of firefighting, whatsoever. This makes things interesting. Cutters and stations are not on the distribution for any parts of the MSM.

In March 1993, the relationship between SAR and marine firefighting was discussed at the HQ–District "M" conference. A particular note was made that Marine Safety commands, cutters, groups and stations all need to familiarize themselves with each other's capability, limitations, and authority. As has been shown in the past (M/V Prisendam fire and sinking off Alaska), the responsibility as SAR case On Scene Commander (OSC) and the Captain of the Port's authority as marine safety incident On Scene Coordinator (OSC) may not be apparent to all. As LT Brogan shows, we still need more familiarity with our own resource capability.

LT Brogan states that all personnel from the Seafarer abandoned ship within minutes of the collision and were safely recovered. Could this be the point when concern shifts from "risk to life" to risk to the environment or property?

As with any response activity (firefighting, dewatering, towing) all elements of risk must be fully evaluated prior to acting. The following is copied directly from issue 1/93 of On Scene: **"The Marine Safety Manual COMDTINST M16000.11, Coast Guard Firefighting Policy, Chap. 8.B–8.C.2. reads: The Coast Guard has traditionally provided firefighting equipment and training to protect its vessels and property... The Commandant intends to maintain this traditional "assistance as available" posture without conveying the impression that the Coast Guard is prepared to relieve local fire departments of their responsibilities... Generally, Coast Guard personnel shall not actively engage in firefighting (on other than Coast Guard units) except in support of a regular firefighting agency under the supervision of a qualified fire officer... Coast Guard personnel shall not engage in independent firefighting operations, except to save a life or in the early stages of a fire to avert a significant threat without undue risk... Coast Guard personnel employed in firefighting operations shall be properly trained and equipped for the task they are assigned. Coast Guard involvement shall be kept to a level commensurate with available leadership, experience, training, and equipment."**

A major part of "risk reduction" is the right person making the right call at the right time. Our people must remember to "stop, look, & listen" and WAIT, if they are not that right person.

Incidents such as the JUPITER explosion/fire in the Saginaw River, where CG and CG Auxiliary resources played a major role in preventing additional loss of life, and MEGA BORG incident, where week–long firefighting and pollution control made world news, show the uniquely different nature of immediate versus continued response. These two incidents show the involvement of commercial firefighting experts after the immediate CG response.

The constant themes of "experience, training, and equipment" must be stressed in our response activity. LT Brogan recommends that 41' UTBs should be outfitted with firefighting gear. As facility manager for UTBs (and MLBs), we do not intend to have our boats so "outfitted". In fact, we deleted firefighting foam from the UTB outfit (highly corrosive to marine aluminum). Our boats do not respond to that "many" vessel fires. The additional gear with its required stowage and maintenance is not justified by current program requirements (none). Our policy is, special purpose gear belongs aboard the station, not aboard the boat. If the response need arises, the gear gets taken aboard for the specific mission, by those adequately trained in its use.

The bottom line: if people are off a burning vessel, back off (upwind) and wait for "expert" advice...IF we get the tasking and the right people, THEN we'll do it.

Again, firefighting is an emotional and controversial issue. Risk assessment must be emphasized. Personnel safety is paramount! Until a new policy comes out, that stated in the MSM is the only servicewide firefighting policy. We hope District Operations Plans reflect it.

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2100 Second St., S.W
Washington, D.C. 20593

Official Business
Penalty for Private Use $300

Commandant (G-NRS-2)
Editor, ON SCENE
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2100 Second Street, S.W
Washington, D.C. 20593

Fold on line. Seal with tape.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1994 - 301-719 - 814/95857