ON SCENE

The Journal of U. S. Coast Guard Search and Rescue

This Issue:
Spring Preps and Cold Water Survival

Spring 2011 COMDTPUB P16100.4

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The Journal of U.S. Coast Guard Search and Rescue
Spring 2011

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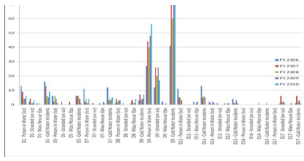

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ON SCENE is a semi-annual, authorized special interest publication produced by the Office of Search and Rescue for members of the U.S. Coast Guard and the SAR community. Editorial content is not to be considered authority for official action nor record material. Individual views and opinions do not necessarily reflect those of the Department of Homeland Security or the U.S. Coast Guard.

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....Please submit questions concerns and comments to our blog at http://www.uscgsar-onscene.blogspot.com.

Notice to librarians:
The last issue published was the Summer 2009 edition.

ISSN: 0093-2124

A Note from the Chief of Search and Rescue...

Captain David A. McBride
Chief, Office of Search and Rescue

As this edition rolls out, the Coast Guard is entering what many seasoned veterans refer to as the Search and Rescue Season. Stealing from a famous cold weather poet, Mr Frost; many of you must think it queer, talking cold water with summer so near. The spring thaw and rising temperatures are an irresistible invitation for the boating season to begin. Every year at the first hint of spring the snowbirds begin to flock back to the north bringing their vessels to their northern playgrounds. Too often, they are caught in the unpredictable spring time weather and find themselves in the water facing the perils of a cold unwelcoming sea. As the Great Lakes open up and the boats begin to return to the water, undoubtedly a number of boaters will also fall prey to the maintenance issued associated with improper winter storage. Unfortunately far too often the boating community is fooled by the comfortable air temperatures and underestimates the risks associated with the still fridge waters. The reality is regardless of the time of year cold water survival is always a time subject

With the ever growing discussion on "Climate Change" or "Global Warming" depending on which camp you reside, the topic of Search in Rescue in the Arctic is really beginning to "heat up". As areas of the Arctic become more accessible to tourist, trade and mineral exploitations the number of individuals being exposed to the risks of finding themselves in a cold water survival situation is also increasing. Obviously as the temperature of the water the survivors are in decreases, the urgency of mounting a response greatly increases. The Polar Regions of course demonstrates the max of the max scenario, as they deal with some of the harsh climates combined with the tyranny of distance. A number of initiatives are currently underway to deal with some of the challenges being faced in these regions. Since one of the greatest challenges is the lack of response resources in these regions, we have been working diligently on negotiating an Arctic Search and Rescue Agreement amongst the 8 Arctic Nations. Hopefully the agreement will be signed at the 7th Arctic Council Ministerial in Nuuk, Greenland on 12 May 2011. We have also been working with several subcommittees under the International Maritime Organization (IMO) to develop Polar Code Guidelines for vessel to follow when operating in these regions. These new safety requirements will hopefully buy the responders enough time to get on scene and affect a rescue.

Regardless of whether a Cruise Ships is carry folks north to see the sight or departing a northern port in search of the southern sun, there is always the potential for an accident at sea. Even a Cruise ship within a hundred miles of shore floundering in any significant seas and reduced water temperatures poses a significant challenge to our Mass Rescue Operation (MRO) plans. But events like Deep Water Horizon have shown us that passenger vessels are not our only potential source for an MRO event.

In all cases, one of the most important aspects of the response is proper Search and Rescue planning. The CG continues to improve its tools and equipment to more efficiently execute its Search and Rescue Mission. The latest version of SAROPS coming out this summer will continue to enhance our ability to quickly and effectively plan our search efforts. The new Probability of Survival Decision Aid already out should give a better understanding of the affects of water temperature on survivability. Hopefully you will find the topic discussed in this issue useful.

Hit it fast and hit it hard! But always be safe and prepared; for those cold waters don't discriminate between victim and responder.

From the Director of Response Policy...

Rear Admiral Cari M. Thomas

Ida Lewis once said about a rescue she performed, "I don't know if I was ever afraid. I just went, and that was all there was to it. Now my mother, she wasn't like me. That night when the two soldiers were tipped out of their boat, I was sitting there with my feet in the oven. I had a bad cold. But when I heard those men calling, I started right out, just as I was, with a towel over my shoulders, and mother begged me not to go. She was so nervous that she nearly fainted away while I was out there. But then, she was sickly quite a time. It was my father who showed me how to take people into my boat. You have to draw them over the stern or they will tip you over." Search and Rescue holds a special place in my heart. Many of my most memorable moments in my Coast Guard career involved searching for, and in many cases, saving people from the sea. Since the earliest days of the Lifesaving Service, Coast Guard men and women have devoted their careers to help people who cannot help themselves.

In the Commandant's State of the Coast Guard address, Admiral Papp outlined four pillars to help guide us in the conduct of our work. These include sustaining mission excellence, recapitalize and build capacity, enhancing crisis response and management, and preparing for the future. Helping others is a critical element of sustaining mission excellence. Our next challenge is to move from being "qualified" to conduct search and rescue to being "proficient". Proficiency requires practice, knowledge, aptitude and skills.

Attaining proficiency in budget constrained environments relies on continual attention to detail. As the Director of Response Policy, I am honored to be part of this effort as we approach these challenging times. The purpose of SAR is to prevent death or injury to people and save property from damage or loss where we can. In order to move from qualified to proficient, we must work as both effectively and efficiently as we can. As I noted in a SAR Mission Coordinator (SMC) message earlier in the year, all levels of the SAR chain of command play an important role in decision making which ultimately reduces risk. All levels of the SAR chain of command also play an important role in taking corrective action, and learning from each case, no matter the complexity. All this contributes to our reputation as global experts in SAR.

Not only do we have the highest expectations for one another, but we must also rely on partnerships as we move forward. Across the mission sets for our service, budget constraints force us to the interagency… search and rescue is no different. We must have guidance, relationships and partnerships to help ensure that mariners can be rescued when they call. Enjoy this edition of On Scene magazine!

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SAR Mission Performance Plan

LT Earnest Rawles III

SAR MISSION PERFORMANCE PLAN

The Search and Rescue (SAR) Mission Performance Plan (MPP) is the SAR program's strategic outlook captured in a single document. In particular, it identifies change-state initiatives to be undertaken in the current year plus five ensuing years timeframe and is refreshed annually. You can define change state initiatives as courses of action that go beyond normal operations in order to achieve substantial improvements in mission performance. As a result of the cost associated with these courses of action, the SAR MPP also supports and informs the Coast Guard's annual budget and future year's Resource Allocation Plan.

Since its inception in September 2009, the SAR MPP has also become a key strategic document used to inform the Standard Operational Planning Process. Specifically, the MPP is used to communicate to Areas, via the Strategic Planning Direction (SPD), some of the planning assumptions, concerns and direction to use in the following year. Who knows? At some point, the SAR MPP may even be able to replace the program's SPD (tongue in cheek). Without any further delay, let me introduce you to the SAR MPP.

SAR MISSION AND VISION

One of the first tasks the SAR MPP development team accomplished during the creation of this document was to identify the mission and vision of the SAR program. Any Coastie knows that the purpose of Search and Rescue is to save lives. We have schools in place to teach people how to save lives and a SAR Addendum to set the policy to include our mission and purpose. But, for the first time in Coast Guard history, it was time to set our mission and vision statement.

Mission

The Coast Guard's Search and Rescue (SAR) mission to save lives anywhere continues to be the Service's greatest calling. The Coast Guard strives to minimize lives lost, injury, and property damage by rendering aid to those in distress in the maritime environment and elsewhere as called upon.

The Coast Guard SAR mission accomplishes this through resource readiness, distress monitoring and communication, search planning, on-scene operations, and productive domestic and international partnerships. The Coast Guard always seeks to improve the overall SAR system. Improvements include prevention through stronger safety regulations, and stronger maritime governance.

Vision

As America's Maritime Guardian, the Coast Guard will be the premier SAR organization in the world. Coast Guard personnel will epitomize the Guardian Ethos and core values of honor, respect, and devotion to duty.

SAR STRATEGIC GOALS

A key component of the Coast Guard SAR mission is supporting national and international strategies by assisting people or property in distress. The Coast Guard fulfills these responsibilities by maintaining strategic goals. Strategic goals are those that we can always strive to improve. In fact, we develop additional goals (planning goals) as a means of striving to reach our strategic goals. The SAR planning goals are displayed in the crosswalk table at the end of this article. SAR strategic goals are listed below:

- Save all lives in distress where Coast Guard resources can be brought to bear
- Relieve pain or suffering for those injured in the maritime domain
- Protect property
- Build a more effective and efficient SAR system
- Be a world leader in maritime SAR
- Maintain the capabilities, competencies, and partnerships necessary

SAR Mission Performance Plan

continued

to respond to catastrophic events, including mass rescue operations

- Minimize risk to Coast Guard personnel and to all responders

MISSION CHALLENGES

To better appreciate SAR program performance initiatives, you must fully understand the challenges the program faces in the present and future maritime environment. Once we identify the problems that the program is facing, we can develop solutions (performance initiatives) to mitigate the risk and ultimately improve performance. An assessment of current performance levels and the desired state of future performance identified four main challenges to the SAR mission:

- a large and increasingly remote area of responsibility
- aging assets and out-dated infrastructure
- the complexity of domestic and international SAR coordination
- the increasing scope of Command Center responsibility

MISSION PERFORMANCE INITIATIVES

The four performance initiatives identified by the program to offset SAR mission challenges are listed in the crosswalk table below. The crosswalk table is broken down to show the link between initiatives, planning goals, objectives and specific courses of action that the SAR Program will undertake over fiscal years 2011 – 2016. The bottom line is that these are the initiatives we believe that will increase the program's life-saving performance.

- advance the capabilities of new and existing resources
- develop and foster national policy and interagency relationships
- develop and foster international partnerships and relationships
- develop Search and Rescue expertise

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The SAR Mission Performance Plan Crosswalk Table

Goals & Objectives	Initiatives	Course of Action
GOAL 1 – Improve Search and Rescue Effectiveness and Efficiency		
Objective 1.3 – Improve SAR Communications	Advance the Capabilities of New and Exisiting Resources	Rescue 21 Implementation
Objective 1.1 – Reduce Search Time		Increased Use of 406 MHz Direction Finding (DF)
Objective 1.1 – Reduce Search Time		Promote Search and Rescue Optimal Planning System (SAROPS)
Objective 1.4 – Enhance Search Sensor Capabilities and Use		Implement Self-Locating Data Marker Buoy 3 (SLDMB 3)
Objective 1.3 – Improve SAR Communications		Promote Development of Emergency Position Indicating Radio Beacon AIS (EPIRB-AIS)
Objective 1.4 – Enhance Search Sensor Capabilities and Use		Promote Unmanned Aircraft System (UAS)
Objective 1.7 – Enhance Situational Awareness		Expand Nationwide Automatic Identification System (NAIS)
Objective 1.7 – Enhance Situational Awareness		Promote Long Range Identification and Tracking (LRIT)
Objective 1.7 – Enhance Situational Awareness		Support Distress Alerting Satellite System (DASS)
GOAL 2 – Coordinate the Development of National SAR Guidance, Relationships, and Partnerships		
Objective 2.1 – Develop National and Interagency Guidence for Federal SAR Response	Develop and Foster National Policy and Interagency Relationships	Develop Policy Related to Distress Alerting Satellite System (DASS)
Objective 2.2 – Revise National Search and Rescue Guidance		Revise the National SAR Committee's National SAR Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual

The SAR Mission Performance Plan Crosswalk Table

GOAL 3 – Foster International Search and Rescue Partnerships and Relationships		
Objective 3.2 - Improve the SAR Capacity of Strategic Partners	Develop and Foster International Partnerships and Relationships	Leverage Volunteer Resources through the AMVER Program
Objective 3.1 - Promote International Search and Rescue Partnerships and Relationships		Engage with the International Maritime Organization (IMO)
Objective 3.2 - Improve the SAR Capacity of Strategic Partners		Develop SAR Memoranda of Understanding (MOU)
Objective 3.2 - Improve the SAR Capacity of Strategic Partners		Develop Antarctic SOLAS Requirements
Objective 3.2 - Improve the SAR Capacity of Strategic Partners		Support International Cospas-Sarsat Program (ICSP)
Objective 3.1 - Promote International Search and Rescue Partnerships and Relationships		Foster Bilateral and Regional International SAR Engagement
Objective 3.1 - Promote International Search and Rescue Partnerships and Relationships		Promote World Meteorological Organization (WMO) Engagement
Objective 3.3 - Revise Global SAR Guidance		Update and Restructure the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual
GOAL 1 – Improve Search and Rescue Effectiveness and Efficiency		
Objective 1.2 - Improve SAR Training and Qualifications	Develop Search and Rescue Expertise	Advance the Expertise of the SAR Mission Coordinator
Objective 1.2 - Improve SAR Training and Qualifications		Enhance the SAR Chain of Command
Objective 1.8 - Coordinate the Development of a Coast Guard Mass Rescue Program		Improve the Mass Rescue Operation (MRO), Passenger Vessel, and Prevention Program

The New Time-On-Scene SAR Measure

Mr. Richard Schaefer and LT Earnest Rawles

THE TIME-ON-SCENE PERFORMANCE MEASURE

The Office of Search and Rescue (CG-534) has begun reporting the new Time-on-Scene measure to DHS this year. The time-on-scene measure was developed based on OMB's assessment of the Coast Guard Search and Rescue program in 2007. The assessment directed the program to implement 3 improvement plans, one of which was to "develop ambitious targets for new annual measures related to property saved and time-on-scene." As a result, the program developed new property saved measures (2009) and time on scene measures (2010). You can view the Performance Assessment Rating Tool results at the following link: http://www.whitehouse.gov/omb/expectmore/summary/10000026.2007.html

UTILITY OF THE NEW MEASURE

Response Time measures the ability of the SAR system to get a resource to the scene or in the search area for an incident. It is the time from the first resource request time to the first resource on scene time. These times may not be from the same sortie.

Response time does not include time used by the SMC to collect case information, evaluate the situation and initiate action. That time is the "SAR Mission Initial Action Time" which is the time from the first notification to the Coast Guard to the first resource request time.

Essentially, time-on-scene measures the SAR system ability to respond to targets in distress within 2 hours, as required by the CG Addendum. The measure is based on the location of resources and proximity to shore of the majority of SAR incidents. This measure permits the program to evaluate SAR response time, identify/assess performance gaps, and determine solutions for policy, capability or operational performance gaps.

Exclusions

The following sortie delay reasons are considered "valid" and are therefore excluded from the measure. Excluded sortie delay reasons include:

- Awaiting first light before beginning/resuming search
- Awaiting prearranged rendezvous time with distressed unit
- Delay directed by SAR Mission Coordinator
- Other sortie(s) launched before this one; awaiting results
- Other sortie(s) launched first; no resource available
- Overdue case; initiated communications check first
- Waited for commercial firm to respond

THE CALCULATION

Time on scene is calculated from the earliest time a Search and Rescue Unit (SRU) is requested to proceed until the earliest time of arrival on scene of an SRU. This includes readiness time, the 30 minutes of preparation time, that provides for underway preps (i.e. engine warm-ups, underway checklist, risk management evaluation, and mission planning) and the transit time, the 90 minutes from underway to on scene based on moderate environmental conditions which allow for operation of the SRUs at their top cruise speeds. To calculate the response times used in the measure, the Coast Guard uses the following equation: Time On Scene = First Sortie On Scene Time minus First Resource Requested Time. The Coast Guard established the 2-hour On Scene Standard in the 1970's and conducted a full review of the standard in 1992. The standard is based on survival expectations in the average weighted water temperatures. The weighting factors into the varying number of incidents occurring regionally.

HOW ARE WE PERFORMING?

The Coast Guard began reporting for this measure in FY 2010. In FY 2010, the Coast Guard performed well above the 85% target reaching well above 90%. During 2011, we will continue to work to enhance the measure by eliminating MISLE time data reporting errors. In addition, the program will be working to better identify data described by CGBI as invalid. Other exclusions for operational decisions made to delay a response may be implemented. Additional study is required to ensure data entry practices accurately match the intended operational actions.

SAR Professionalism Top 10

LCDR Michael DaPonte

In 2003, while serving as the commanding officer of Station Cape May I shared with the crew some thoughts on search and rescue professionalism. This "philosophy" ended up circulating around (what was then) Group/Air Station Atlantic City and even made an appearance in the Boat Forces Newsletter. At the request of the editors of ON SCENE, I updated my list to bring it in to today's context. This was written for Station OODs, coxswains, and boat crews but a lot of it applies to everyone involved in the search and rescue profession.

My Top 10 Topics on SAR Professionalism include:

1. Hit Hard, Hit Early.

2. SAR is a Team Sport.

3. Every Team Needs a Leader.

4. When Searching - SEARCH.

5. Probable Hoaxes.

6. Uncorrelated Distress Calls and Lost Communications.

7. Flare Sightings and EPIRB Cases.

8. Use the Check Sheets, But Use Common Sense Too!

9. Use Proper Radio Telephone Procedures.

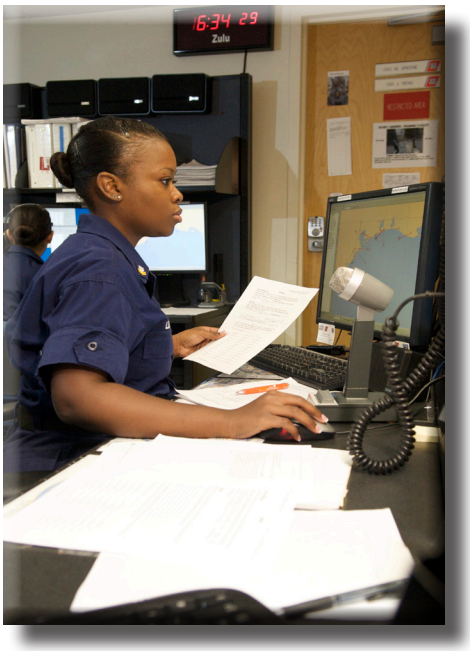
10. Cardinal rule of SAR. Don't make a SAR case out of a SAR case.

11. Leadership. (11 for the price of 10!).

My Top 10 on SAR Professionalism came from some personal experiences (both good and bad), (continued on pg. 27) as well as some hard lessons learned by others. If we don't learn from the past on, we're not honoring those that have gone before us.

1. Hit Hard, Hit Early. They drill this into your head when you attend National SAR School. It's always better to launch a resource and find out it's not needed, rather than regret you should have launched hours earlier. This is particularly true for overdues. If you are uncertain, LAUNCH! Boats and crews are made to get underway. It's our job.

2. SAR is a Team Sport. No one expects you to do your job alone. SAR is a team effort and you need to be a good team



player. Operational Risk Management (ORM) and Team Coordination Training (TCT) work to build communication skills and to trap mishaps before they occur. The chain of command is not here to micromanage your decisions. The chain of command is there to keep you safe while you do inherently dangerous work and to make sure we deliver the best possible assistance to the public. Don't regret having to brief the CDO, CO or Sector Command Center and don't ever hold back on information to make a case go the way you want.

3. Every Team Needs a Leader. And our leader is the SAR Mission Coordinator (9 times out of 10 this will be the Sector Commander). The Sector Commander does not stand watch – Sector Command Center watch standers perform the duties of the SMC, but remember who is really responsible. From time to time, the Station may be charged with "running a case" on behalf of the Sector Command Center. You may be doing the duties of SMC, but technically SMC responsibility does not fall below the Sector level. Station OODs have an obligation to stay on top of the cases occurring in the AOR and to keep the SMC informed of their status. Don't let them down. Never let the chain of command get caught by surprise.

4. When Searching - SEARCH. Here's an old case study exercise from SAR School: Around 1972, a District 7 Group had a report of an overdue 18 foot Boston whaler with a family of 4 (a husband and wife and two out of town relatives). The family departed on an offshore fishing trip a Sunday morning and was due back for dinner with their neighbor that night. They never returned. The neighbor called the Coast Guard the following morning after realizing the boat owner's truck and trailer were not in the driveway. The Group launched a search with helos, boats, a 95 foot patrol boat, and a WMEC. They hit hard and early. First day of searching (day 2 for the family) yielded negative results. Same on the 3rd and 4th days of searching. The sole survivor was found on day 5 of the search (6 days after the family left). Upon rescue, the survivor reported

SAR Professionalism Top 10

continued

the boat capsized on Sunday and the four occupants ended up in the water. At some point, his sister and brother in law attempted to swim to shore. The survivor reported seeing a Coast Guard aircraft fly overhead on the third day, close enough for him to read the tail numbers. The tail numbers and time sighted correlated to the search effort. The night before he was found, he and his wife drifted within 100 yards the patrol boat, which was taking on fuel from the WMEC. They drifted close enough to hear conversations and laughter on deck. Because they were so dehydrated and fatigued, they were unable to yell for help. They drifted within 100 yards, and then drifted out of sight. That night, his wife strangled to death from the line they used to tie themselves together so they would not be separated. He was found the following morning by an aircraft en route to their search area - by chance. Moral of the story is - when you are out searching, don't just "look around" while the boat cuts holes in the water. Save the chitchat for the mess deck. Every now and then come to all stops and listen, especially at night. Coxswains are expected to execute their search patterns as they are given to them by the SMC. Stay on track. In absence of a search pattern from the SMC, when the coxswain arrives at the Last Known Position and without any sightings, they should execute an Expanding Square or Sector Search at the appropriate track spacing/radius (.1 nm for a PIW). Treat each search as if you were looking for your mom or dad. Never discount the idea that the reason why you can't find the boat is because it sunk and the occupants are now struggling in the water to stay alive. While the primary search object may be a boat, the search objective is to find people who are in distress or otherwise need your help.

5. Probable Hoaxes. The only way to confirm a probable hoax is to catch the person making the call. Until you do you have to treat the call as if it's the real thing.

If you are reasonably certain you have a hoax call, brief the chain of command. The decision whether or not to launch is not ours to make. It's made at the Sector/District command center level. Don't take matters into your own hands. There are hundreds of reasons why a real distress call might sound like a hoax. Sometimes people sound drunk and can't keep their story straight when they are hypothermic or experiencing some other medical emergency. Sometimes people laugh when they are under extreme stress. Sometimes children don't know what to say when they are in trouble. Until you catch the hoax caller, you will never know for sure.

6. Uncorrelated Distress Calls and Lost Communications. An uncorrelated distress call is a call that, for any number of reasons does not contain enough information for us to launch an effective search. Many times it can be a simple "mayday" or "help" over channel 16 (or any other channel). It can also be something that just does not sound right, like an excited voice yelling "Coast Guard!" and nothing else. These calls are easy to dismiss as probable hoaxes. Remember, there are many reasons why a boater does not answer after they made the initial "help!" or "Coast Guard" transmission. Maybe the person is too busy bailing out his boat to answer the radio. Maybe the water level reached the batteries or wires. Maybe the boat is listing on its side and the antenna is not on a level transmitting plane. Maybe the caller is now swimming for his life. Yes, maybe it's a hoax, but there are many other plausible explanations out there. Remember the S/V MORNING DEW tragedy back in 1997. The MORNING DEW is an excellent example of how bad things can happen to good watch standers. Don't think something like the MORNING DEW could not happen on your watch. If you get an uncorrelated distress call, brief the Sector on what you know. Always give the boater the benefit of the doubt.

7. Flare Sightings and EPIRB Cases. No matter how many times they end up being false alarms, they are still distress signals. They are treated with the same emphasis as any other distress call.

8. Use the Check Sheets, But Use Common Sense Too! Check sheets are a great guide for collecting the important information, in the right order. Remember you can use common sense in asking the questions. You

SAR Professionalism Top 10

continued

don't have to ask every single question on the form before you hit the SAR alarm. Collect the 3 P's first (position, problem, people), then description, tell them to put life jackets on, then shift them to 22 if time permits. Don't forget to get the name of the owner/operator, along with the home phone number.

9. Use Proper Radio Telephone Procedures. You'll be dealing with people who are calling you when their day has gone terribly wrong and it's your voice they will hear. It's important to sound professional and to keep your composure. Remember, they are in distress, not you. Your watch room is not taking on water. You are not lost or on fire so don't get excited over the radio. Your professional, calm voice they hear over the radio will help calm them down and make the case go smoother. Think about what you are going to say before you say it. Talk to those in distress like you are talking to your mother. Don't ask "How many G.P.M. are you T.O.W.?" Instead, ask "is the water coming in like a garden hose or a fire hose? Can you control it?" Remember your prowords. When the boater tells you the name of their boat, USE IT! Don't keep calling them "vessel in distress." They don't need to be reminded. When using local landmarks and reference points, use them correctly - it's Intra Coastal - not Inter Coastal Waterway. When you speak over the radio, you represent all of us.

10. Cardinal rule of SAR. Don't make a SAR case out of a SAR case. Don't put yourself in a position that will require someone else to risk their life to rescue you. You are indispensable. We need you to stay healthy and fit for full duty, and we need the boats to remain in Bravo status. If you get hurt or break the boat, we're all going to be working a lot harder. The Boat Forces Memorial poster has hundreds of crewmembers who died in the performance of their boat forces duties. Honor their memory by not adding your name to the memorial.

11. Leadership. (11 for the price of 10!). Remember the opening line to your advancement certificate: "Know ye that reposing special trust and confidence in the fidelity and abilities of YOU… The public we serve depend on us to do the right thing. In no other mission area is this more important. We're all in a leadership position, and those junior to us are watching and learning from our every move. Train them right. Set the example.

Gone Fishing: On a Friday afternoon a man calls home from the office and says to his wife, "Honey, the boss just asked me to go fishing for the week-end at a big lake up in Canada. This might help me get that promotion I've been wanting. So would you please pack enough clothes for me for a week and set out my rod and my tackle box? We're leaving right from the office, but I'll swing by the house to pick up my things. Oh! And, would you please pack my blue silk pajamas?" The wife thinks this sounds a little fishy, but being a good wife she does exactly as her husband asks. Late Sunday night "hubby" comes home... and he's really tired. The wife welcomes him home and asks if he and his boss caught many fish. "Oh, yes", he answers. "Lots of Walleye, some Bluegill, and a few Pike. But, um, why didn't you pack my silk pajamas like I asked you to do?" The wife replies, "Oh, but I did, sweetheart... they were in your tacklebox!"

The Arctic - A Search and Rescue Challenge

Mr. Rick Button and LT Amber S. Ward

The Arctic Ocean has long been a nearly impassable environment; with the exception of parts of some of the marginal seas, only icebreaking-capable ships were able to venture into the world's most northern ocean, and usually only for specific scientific ventures.

Not any longer. The receding Arctic ice is opening up enough to allow summer sailing through both the Northeast and Northwest Passages. In 2009, one German shipping company intended to push the boundaries in Arctic shipping by transiting through the Northeast Passage without icebreaker assistance.[1]

With increased transportation costs, shipping companies are assessing the economic feasibility of using the shipping routes at the top of the world. In addition to the potential increase in shipping, add the pursuit of the Arctic's natural resources and the increase in transpolar commercial airline flights, there is an expectation that human activity in the Arctic will increase. In addition, the increase in marine tourism and passenger vessels operating in Arctic waters presents an emerging challenge to existing search and rescue (SAR) capabilities in the region. As these large passenger vessels continue to operate more frequently and farther north in Arctic waters,[2] northern nations responsible for Arctic aeronautical and maritime SAR understand the potential for an increase in disasters, both large and small. With the enormous distances, vast barren landscapes, and harsh conditions, the challenge for Arctic nations in the coordination and conduct of SAR operations is immense. The troubling reality is that there are very limited local, regional, and national SAR response capabilities in the Arctic region.[3]

The lack of available SAR resources and infrastructure to launch aviation assets to support large-scale SAR operations make the challenge even greater. The good news, on the other hand, is that SAR authorities recognize the significance of the Arctic SAR challenge. Local, regional, national, and international cooperation to support lifesaving is continuing to improve.

For the United States, the environmental changes in the Arctic region continue to expand Coast Guard missions. While other Federal Agencies balance Arctic development and environmental concerns, the Coast Guard will need to enhance its capabilities in the far north to support multiple maritime safety and security missions.

Search and Rescue Responsibilities

Responsibilities to assist people, vessels, or aircraft in distress are based on humanitarian considerations and established international practice. Specific obligations can be found in several international conventions in which the United States is a Party, including the:

- Convention on International Civil Aviation (Annex 12);
- International Convention on Maritime Search and Rescue;
- International Convention for the Safety of Life at Sea; and
- United Nations Convention on the Law of the Sea.

The two guiding international conventions for the coordination and conduct of SAR operations are the Convention on International Civil Aviation and the International Convention on Maritime Search and Rescue. Both conventions require nations with aeronautical and maritime SAR region responsibilities to enter into agreements with neighboring nations to ensure the delimitation of their respective SAR regions and serve as the basis for future coordination and cooperation in the conduct of SAR operations. These international arrangements between nations also facilitate the identification of vital SAR points of contact and serve as a means of ensuring that nations have the necessary SAR resources available for their respective SAR regions.

This is true in the Arctic Region. SAR responsibilities in the Arctic are divided between the eight Arctic Council nations: Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and United States.

In support of these international conventions, in the United States federal law provides that the Coast Guard may develop, establish, maintain, and operate SAR facilities, and provides for using these facilities to assist other Federal and State entities.[4] This authority is supplemented by the National Search and Rescue Plan (NSP) of the United States, an interagency agreement signed at the cabinet level by seven Federal Departments and Agencies, including the Department of Homeland Security. The NSP authorizes the Coast Guard and other Federal Agencies to perform or support SAR services.[5] Pursuant to the NSP, the Coast Guard coordinates aeronautical and maritime SAR services in the United States maritime SAR regions.

The NSP provides for the effective use of all available resources in the conduct of SAR missions, as well as enable the United States to satisfy its humanitarian, national, and international legal obligations. Under

the overarching provisions of the NSP, SAR doctrine, standards, policy and procedures are provided in the:

- International Aeronautical and Maritime Search and Rescue (IAMSAR) manual (applies globally);
- U.S. National Search and Rescue Supplement (NSS) to the IAMSAR manual (applies to all Federal Agencies involved in SAR); and
- Coast Guard Addendum to the NSS (applies only within the Coast Guard).

Coast Guard SAR Program: International Cooperation

The primary objective of the Coast Guard SAR program is to always seek to improve our ability to save lives at sea. The Coast Guard SAR program is highly respected within the international community, and takes seriously its responsibility as an international SAR leader. As such, the Coast Guard strives to enhance coordination and communication between operational SAR authorities and government authorities that support this capability. Additionally, international coordination and communication helps improve the effectiveness of participating SAR systems through sharing information and practices, training personnel, and expediting delivery of SAR services.

To support this international lifesaving effort, in 1984, the Department of State granted the Coast Guard authority to negotiate SAR agreements with corresponding services of foreign governments.[6] The Coast Guard has utilized this authority to conclude several bilateral and multilateral SAR agreements.

These cooperative SAR agreements with other nations are important to the United States and Coast Guard. The United States aeronautical and maritime SAR regions are enormous, encompassing three-quarters of the North Pacific Ocean from the equator in the south to the North Pole, as well as half of the North Atlantic Ocean. In such large SAR regions and with limited SAR resources, the Coast Guard routinely coordinates SAR operations with our international partners. In addition, cooperative SAR arrangements with other government agencies or with authorities of other nations not only fulfill domestic and international obligations and needs, but also provide many other significant benefits. In practice, such arrangements allow for more efficient SAR response communication and coordination. By identifying responsibilities and points of contact, and by delimiting national SAR regions, domestic and international SAR arrangements can enhance the effectiveness of SAR operations worldwide. Time has proven that these arrangements have a direct impact on preserving valuable Coast Guard resources, decreasing response time, and saving lives at sea.

Arctic SAR Cooperation

In August 2008, representatives of the Arctic nations met in Fairbanks, Alaska, for the Eighth Conference of Parliamentarians of the Arctic Region. Discussions focused on maritime policy, human health, renewable energy, and adaptation to climate change in the Arctic region. In the conference statement, the representatives called upon governments to "strengthen cooperation, consultation, and coordination among nations regarding search and rescue matters in the region to ensure an adequate response from states to any accident." The group also urged governments to support measures by Arctic nations and the maritime industry to "put appropriate resources in place to provide for emergency response capability, search and rescue capability … as the Arctic opens to marine shipping."[7]

In the Arctic, the U.S. aeronautical and maritime SAR regions are delimited by the Russian Federation[8] to the east and Canada to the west.[9] Through cooperative arrangements with both, the groundwork has been laid for continued cooperation in supporting SAR operations. However, in the far north, U.S. SAR region responsibilities include many thousands of square miles of Arctic Ocean. In this environment, any type of large-scale SAR operation will be difficult, requiring a coordinated, multi-agency (local, state, federal, military, tribal, commercial, volunteer, and scientific), and multi-national response effort with assets uniquely suited to the severe weather, uninhabited terrain, and long distances.

For example, Coast Guard fixed wing aircraft, helicopters, ships and patrol boats in Alaska are stationed well south of the Arctic Circle.[10] If the Coast Guard is notified of a distress in the vicinity of Barrow, Alaska (on Alaska's northern coast), sending a helicopter from Kodiak north to Barrow would take several hours just arrive on scene. In addition, aircraft logistics in the Arctic Region are a challenge: aircraft refueling, communications, and other support requirements continue to be problematic due to long distances, harsh weather, as well as limited airfields and aviation resources. With this in mind, the Coast Guard continues to foster cooperative relationships with SAR volunteers, local and tribal Arctic communities, oil companies working in the Arctic Region,

other State and Federal Agencies, the U.S. military and our international partners to help assist in Arctic SAR operations.

A good example of the challenges associated with conducting Arctic SAR operations occurred on September 3, 2009. The cruise liner BREMEN requested the medical evacuation of a 27-year-old patient suffering from appendicitis, approximately thirty miles north of Prudhoe Bay, Alaska, north of the Arctic Circle. Although on scene weather conditions precluded flying to conduct the medical evacuation, it still would have taken a Coast Guard helicopter several hours just to arrive on scene, and no air assets were available locally. As a result, the Coast Guard coordinated a boat evacuation with an oil company small boat working in the vicinity. The 42-foot vessel, with two medics onboard, rendezvoused with the BREMEN and brought the person to Prudhoe Bay, where she was transported to Anchorage for medical treatment. This SAR case demonstrates the challenge of the Arctic: vast distances, extreme weather and limited SAR resources.

Although the U.S. has a non-binding SAR arrangement in the Arctic with Canada and a provisional arrangement with the Russian Federation that have served us well over the years, development of a mutual, regional cooperative arrangement among all nations with Arctic Region SAR responsibilities is presently under negotiation.[11] A multilateral SAR instrument would provide the framework for future international cooperation to save lives in the Arctic. It would also support the provisions of the International Convention on Search and Rescue, developed by the International Maritime Organization (IMO), and the Convention of International Civil Aviation, developed by the International Civil Aviation Organization (ICAO), which call for cooperative arrangements to be established by countries in order to further international maritime and aeronautical SAR cooperation.[12]

Specifically, a multilateral Arctic Region SAR arrangement would:

- identify key basic coordination and cooperation arrangements among the participating nations;
- provide the points of contacts for each participating nation for use in coordinating potential assistance in ongoing and future Arctic SAR operations;
- set the stage for nations to meet periodically to discuss SAR coordination and cooperation issues, providing an understanding of the unique SAR challenges each nation faces in the Arctic;
- provide the impetus for multi-national exercises that could be implemented on a periodic basis to allow national SAR agencies to practice communication, coordination, and the practical challenges associated with Arctic SAR operations; and
- formally identify each nation's Arctic aeronautical and maritime SAR regions[13]

Arctic Exercises

In January 2009, a new U.S. Arctic Region Policy was established by Presidential Directive.[14] Based on national interests and priorities outlined in the policy, it is anticipated that the Coast Guard's role and missions in the Arctic will continue to expand. In preparation for its increasing responsibilities, the Coast Guard has been conducting various exercises while patrolling in the Arctic Ocean, determining which assets are best capable of operating in the icy climate.[15]

For example, during July and August 2008, the Coast Guard conducted its first series of Arctic exercises off Barrow, Alaska. The primary objective was to determine the Coast Guard's Arctic requirements and capabilities. As part of Operation Salliq, units in the Coast Guard 17th District in Alaska tested the operational capabilities of various Coast Guard assets. The 16-day operation included two HH-65 Dolphin helicopters and two 25-foot response boats from Station Valdez. The exercise also included a successful rescue swimmer operation conducted by members of Coast Guard Air Station Kodiak.

After the initial exercise, on August 29, 2008, the Coast Guard conducted its first Arctic SAR exercise to better understand the challenges of executing a mass rescue operation in the harsh environment. The Kodiak-based, 225-foot buoy tender Coast Guard Cutter SPAR and the San Diego-based, 378-foot Coast Guard Cutter HAMILTON, together with aircraft from Coast Guard Air Station Kodiak, were the principal participants.

The SPAR simulated a small cruise ship in distress after striking sea ice. The "collision" resulted in uncontrolled flooding in the auxiliary engine room, injuries to two crewmembers, and the loss of one passenger into the water. The HAMILTON responded to the call for assistance with a combination of forces and tactics. The cutter launched its HH-65 helicopter to evacuate the "injured" crewmembers, deployed a small boat to retrieve the person in the water, and deployed a second small boat with a rescue and assist team to patch the hull and dewater the flooded compartment. As a result, the Coast Guard learned

key lessons to improve its Arctic SAR capabilities.[16]

The sinking of the PRINSENDAM: A case in point

This year, October marks the 30th anniversary of the sinking of the 427-foot cruise liner PRINSENDAM with 530 passengers and crew, approximately 120 miles south of Yakutat, Alaska.

At midnight on October 4th, 1980, a fire broke out in the PRINSENDAM's engine room. One hour later, the Captain declared the fire out of control and sent out a distress call requesting immediate assistance. The Coast Guard's 17th District Rescue Coordination Center in Juneau, Alaska, received the distress call and coordinated U.S. military, Coast Guard and Canadian rescue aircraft and ships to aid the stricken ship. Approximately 550 miles away, the Coast Guard Cutter MELLON, on patrol in the vicinity of Vancouver, British Columbia, diverted to assist. The 1000-foot supertanker, WILLIAMSBURGH, was notified and also diverted to render assistance. At 0630 the following morning, the PRINSENDAM's Captain ordered abandon ship. All passengers and crew, with the exception of 15 passengers and 25 crewmembers remained onboard. Fortunately, all of PRINSENDAM's passengers and crew were rescued with no deaths or serious injuries. On October 11, 1980, the PRINSENDAM capsized and sank.

Although not in the far north, the PRINSENDAM rescue operation, considered one of the ten greatest Coast Guard rescues of all time, does highlight the challenges in conducting SAR in remote locations with limited resources. The PRINSENDAM rescue operation was a success: No lives were lost. But the PRINSENDAM is also a reminder that a disaster of this magnitude could occur again in the Arctic. Arctic nations must continue to prepare for a mass rescue operation, as well as other lifesaving SAR operations, in one of the most remote and harshest environments on Earth.

On the Horizon

If current ice trends and advances in technology continue as expected, human activity in the Arctic region will increase. Continued expansion in shipping and vessel traffic in turn increases risks to mariners and the environment while challenging law enforcement regimes, operational capabilities, and conventional notions of sovereignty.

In view of this, cooperation between the U.S. and other Arctic nations will become increasingly necessary to ensure effective SAR response coordination. The U.S. and the Coast Guard will continue to partner with national and international agencies and organizations to develop an effective SAR response capability in the Arctic.

The Coast Guard SAR program is committed to maintaining world leadership in maritime SAR and minimizing the loss of life, injury, and property loss and damage in the maritime environment. Bearing these objectives in mind, the Coast Guard will continue to work towards meeting the challenge of providing critical rescue assistance in one of Earth's most extreme environments.

(Endnotes)

1 "If an oil tanker crashed in the Arctic," BarentsObserver.com, Sept. 25, 2008.

2 Arctic Council, *The Arctic Marine Shipping Assessment* (AMSA) (2009), p. 172, available at http://web.arctic-portal.org/pame/amsa.

3 *The Arctic Marine Shipping Assessment* (2009) specifically addresses the lack of SAR infrastructure in the Region: "A survey of search and rescue resources among Arctic states indicates limited availability of fixed wing aircraft and helicopters in most of the region. Some survey responses included icebreakers and seasonal patrol vessels that can be used for SAR when near enough to an incident. However, in general, there are shortages of critical SAR response assets, such as long-distance, heavy-lift capacity helicopters. The usefulness of these assets is often limited by weather and other operating conditions. Emergency response efforts are further hampered in many regions by an insufficient shore side infrastructure needed to provide basic logistics and support functions for SAR missions." *Id.* at p. 171.

4 14 U.S.C. §§ 2, 88 and 141.

5 The National Search and Rescue Committee (NSARC), chaired by the U.S. Coast Guard, is responsible for the provisions of the NSP, and coordinates and provides interagency guidance for its implementation. NSARC is comprised of the Departments of Homeland Security, Transportation, Defense, Commerce and Interior, the Federal Communications Commission and the National Aeronautics and Space Administration. More information about the NSARC and NSP is available at www.uscg.mil/nsarc.

6 Known as "Circular 175" authority, the Coast Guard is authorized to negotiate and conclude SAR agreements, in coordination with the Department of State, but is responsible for funding any activities conducted pursuant to any such agreement. Under the standard terms of SAR agreements (whether binding or non-binding) participants are responsible for bearing their own costs but are not obligated to contribute any specific funding for implementation of the agreement. This is consistent with Coast Guard SAR policy. Further, cooperation under international SAR arrangements has not resulted in any significant expenditure of U.S. Coast Guard operational expenses. The original "Circular 175" was a 1955 Department of State circular prescribing a process for prior coordination and approval of treaties and international agreements. The "Circular 175" title has been retained, while the applicable procedures are now referenced at 22 CFR 181.4.

7 Conference statement, eighth Conference of Parliaments of the Arctic Region, available at www.arcticparl.org.

8 Delimitation of the U.S. and Russian Federation SAR regions has never been formalized. In 1988, the U.S. and former Soviet Union Federation concluded a maritime SAR agreement that delimits the SAR region boundaries using the U.S.-Russian Federation agreed to maritime boundary. The U.S.-Russian Federation Maritime Boundary Agreement was concluded in 1990, and although concluded after the maritime SAR agreement, has been used for delimiting the U.S. and Russian Federation maritime SAR regions. Unfortunately, this maritime boundary agreement is still considered provisional by the Russian Federation. As a result, the U.S. and Russian Federation maritime SAR regions have never been officially delimited as required in the Maritime SAR Convention. In addition, the U.S. and Russian Federation have never concluded an agreement to formally delimit their respective aeronautical SAR regions as required by the Convention on International Civil Aviation. Although the U.S. and Russian Federation still need to officially delimit their respective SAR regions through a cooperative agreement, both do work together to coordinate and conduct SAR operations as required by international convention.

9 Establishment of SAR regions is intended to effect an understanding concerning where nations have accepted primary responsibility for coordinating or providing civil SAR services; it is not a declaration of sovereignty. All U.S. SAR regions are established in cooperation with neighboring nations, are internationally recognized, and are described in pertinent International Maritime Organization (IMO) or International Civil Aviation Organization (ICAO) instruments.

10 Coast Guard fixed wing aircraft and helicopters are located in Kodiak, Sitka and Ketchikan.

11 The 2009 Arctic Marine Shipping Assessment (AMSA), recognized that creation of a more comprehensive multilateral, regional SAR agreement in the Arctic Region would have tremendous benefits. It would build upon existing international arrangements and would "serve as the centerpiece of cooperation and coordination in support of Arctic emergency response operations while providing an important example of a mutually beneficial regional approach among Arctic nations to address important shared issues of concern." (AMSA, supra, at p. 174). Specifically, the 2009 AMSA recommended **"**That

12 The IMO SAR Convention strongly encourages the conclusion of SAR agreements, particularly with neighboring States. The Annex to the Convention, as amended provides: "Parties should enter into agreements with other States, where appropriate, to strengthen search and rescue co-operation and co-ordination." (IMO SAR Convention, as amended, Annex, Para. 3.1.8). It further requires that "Each search and rescue region shall be established by agreement among Parties concerned." (*Id*. at Para. 2.1.4).

13 These elements are within the scope of matters contemplated by the IMO and ICAO SAR Conventions. They are also consistent with U.S. statutory authorities of the Coast Guard (*See e.g.* 14 U.S.C. §§2, 88(a) and 142).

14 *National Security Presidential Directive (NSPD)-66* and *Homeland Security Presidential Directive (HSPD)-25*, signed by President George W. Bush on January 9, 2009.

15 AS IT RELATES TO MARITIME TRANSPORTATION IN THE ARCTIC REGION, THE 2009 NATIONAL POLICY DIRECTS THE SECRETARIES OF STATE, DEFENSE, TRANSPORTATION, COMMERCE, AND HOMELAND SECURITY TO, AMONG OTHER DIRECTIVES, "IMPROVE PLANS AND COOPERATIVE AGREEMENTS FOR SEARCH AND RESCUE." NSPD-66/HSPD-25, III.4.F.B (JAN. 9, 2009).

16 The Coast Guard Arctic exercises reinforced the challenges personnel, boats, ships and aircraft face in conducting severe weather SAR operations in an environment where ice can damage boats and ships with hulls not ice reinforced, as well as long distances and extreme cold that may hinder SAR aircraft.

U.S. COAST GUARD
& COAST GUARD RESERVE
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Sometimes Luck is on Your Side

LCDR Nathan Kendrick

Survival in Alaska waters requires not just survival suits, but properly functioning electronic gear to ensure you can be located quickly.

When Shawn Elliot and Nick Kailukiak departed from Dillingham, Alaska, on Friday 13 August 2010, it was just another day on the water for these two seasoned Alaska fishermen. Having worked for the boat's owner for five years, it was Elliott's second year in charge of the 32-foot aluminum –hulled Intrepid. The salmon season over, they had dropped off one deckhand to fly home on the 11th, but were delayed leaving town until the 13th. With the weather beginning to turn, Elliott chose to anchor at the mouth of the Igushik River overnight before continuing on across Bristol Bay to Egegik.

Six hours into their transit, with winds gusting up to 45 knots and seas reported at 8 feet but higher and choppier due to the incoming tide and matching winds, the ride started to get rough. In order to make the boat more stable, Elliott began to "tank down," pumping water into the fish hold to ballast down the boat. But this required slowing down the engine to idle in order to safely run the belt-driven hydraulic pump. With the engine at idle, he was unable to keep the bow into the seas and was forced to ride beam-to. It was a tradeoff, but, he felt, the safest way to proceed.

Then disaster struck. With a couple of large swells, the boat rolled, the transom was topped by a wave, water came over the stern and the boat began to rapidly take-on water.

Up to their knees in a matter of minutes, Elliott had reversed the ballast pump and checked the bilge pumps, but the water was coming in too fast. Stepping back into the deckhouse, he got a mayday call out on channel 16 to Coast Guard Sector Anchorage, reporting their position as "between Etolin Point and Cape Constantine." Unfortunately, the commercial GPS unit installed in the boat did not provide latitude and longitude, and was frequently not accurate. "I've been out fishing and been plotted on land," Elliott recalls.

He and Kailukiak donned their survival suits, grabbed their emergency beacon (EPIRB), some bottled water and all the floating objects they could muster. Not wanting to risk going back into the deckhouse of the rapidly flooding boat to secure the engine, Elliott and Kailukiak waited on the bow until the boat was about to capsized, then jumped off to avoid the spinning propeller. They watched as the boat disappeared below the waves. It all happened in less than 10 minutes.

Immediately, Elliott noticed something was wrong with his suit. A valve which was supposed to only let air out was also letting water in, and his legs were filling up with water. Although still keeping him somewhat warm, he was unable to swim effectively. Nevertheless, with the tide and wind in their favor for the time being, the two decided to start swimming towards land, hopefully making it closer to shore before the tide turned. They activated the EPIRB, but found the light would not remain on. Obviously inoperative, they let it go.

Their mayday call was received at 12:53 pm by Coast Guard Sector Anchorage, which passed it onto Coast Guard District 17's North Pacific Search-and-Rescue Coordinator (NPSC). The NPSC immediately authorized launch of an HC-130 Hercules from Cordova, Alaska, and an MH-60 Jayhawk from Air Station Kodiak. Having recently landed in Cordova on a logistics flight, the HC-130 was in the air within 20 minutes and arrived on scene at 2:50 pm. Without a specific location, NPSC assigned a search pattern, and the HC-130 descended to 800 feet to begin the search. In the back, AMT3 Craig Miller and AMT3 Meagan Bragg prepared the cargo bay for a ramp search. In the water, Elliott and Kailukiak could see the aircraft working their grid. Search conditions were difficult—visibility was only 5 miles, and 45-knot winds and 9-foot seas churned up numerous white caps, making it difficult to spot any small objects in the water. But good luck and sharp eyes made the difference. At 3:24 pm, from the HC-130 ramp, AMT3 Miller spotted something, "Mark, mark, mark—red object in the water." The HC-130 circled back, located the two men, and vectored in the MH-60. (continued on page 34)

Having delayed their takeoff from Kodiak due to extremely low weather and visibility, the MH-60 Jayhawk arrived on-scene just before Miller spotted the two men. Within minutes, the rescue swimmer was down, both survivors were hoisted aboard, and the helicopter departed for Dillingham

Sometimes Luck is on Your Side

continued

to drop them off with awaiting emergency services personnel. When they arrived, both men were in good condition, but Elliott's core temperature had dropped by 5 degrees. Kailukiak's was 100 degrees from the exertion of helping his friend swim.

Although he has played it out many times in his mind since, Elliott doesn't think he could have done anything differently. But he learned some valuable lessons that day. "I will have my *own* survival suit." Other lessons learned are the need for an operating EPIRB and a GPS which provides latitude and longitude. Water temperature was only 48 degrees—without a survival suit, survival time in 48 degree water is at best 3 hours, with only an hour until loss of consciousness. Despite the leak, "Having working survival suits and donning them prior to abandoning ship allowed the Coast Guard the valuable time necessary to arrive on scene and conduct a successful rescue." said Lt. Herbert Law, command duty officer for the Seventeenth Coast Guard District. "Without these suits the outcome may have been drastically different."

Although they could have been better prepared, Elliott and Kailukiak responded smartly by getting a mayday call out right away, donning their survival suits, and grabbing water and floatation. Without a functioning EPIRB, they could have been in the water for several hours before being located. In the end, they were incredibly lucky. It is exceedingly difficult to spot two people in rough water, and thanks to the sharp eyes of AMT3 Miller, both were picked up within three hours of their boat sinking. Asked for any final thoughts, Elliott said he would like to pass on his gratitude to the Coast Guard Auxiliary for their volunteer safety inspections, and to the Search and Rescue teams for going into harm's way to save him and others.Having delayed their takeoff from Kodiak due to extremely low weather and visibility, the MH-60 Jayhawk arrived on-scene just before Miller spotted the two men. Within minutes, the rescue swimmer was down, both survivors were hoisted aboard, and the helicopter departed for Dillingham to drop them off with awaiting emergency services personnel. When they arrived, both men were in good condition, but Elliott's core temperature had dropped by 5 degrees. Kailukiak's was 100 degrees from the exertion of helping his friend swim.

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Cold Weather Tips

While the Coast Guard understands winter recreation on the ice around the Great Lakes is a tradition, it is important to take safety measures such as:

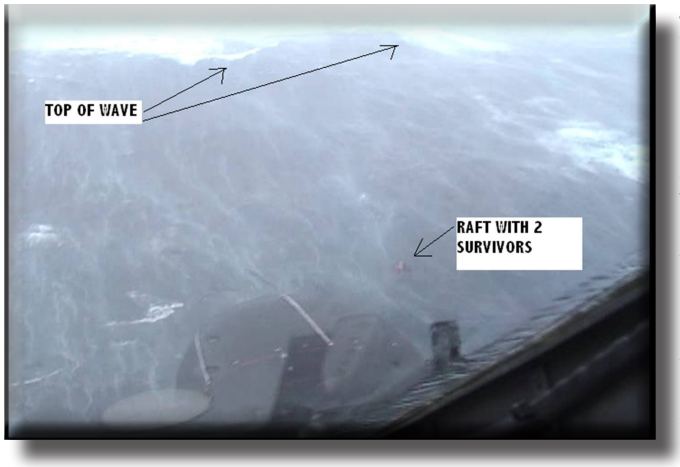
1) Use the buddy system: NEVER go out on the ice alone.

2) Dress in bright colors; and wear an anti-exposure suit that is waterproof, including a personal flotation device. A PFD allows a person to float with a minimum amount of energy expended and allows the person to assume the heat escape lessening position (H.E.L.P.) - bringing the knees close to the chest and holding them in place by wrapping the arms around the shin portions of the legs.

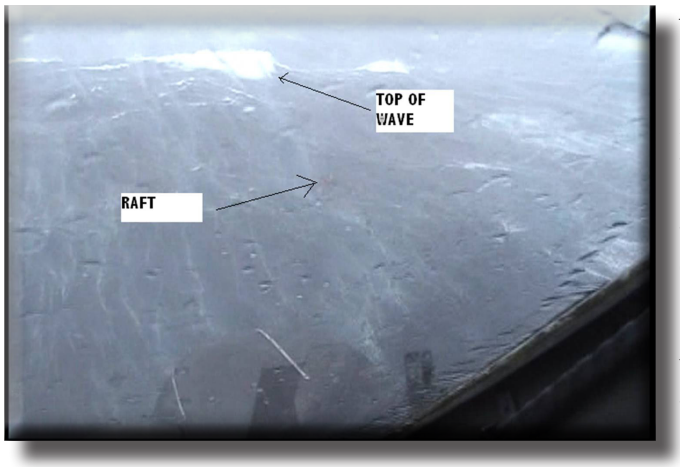
Satellite Emergency Notification Devices: Can They Help Take Search Out of Search and Rescue?

CDR Nevada Smith

On 7 May , 2007, I was part of a Coast Guard H-60 helicopter aircrew that rescued three mariners from a raft that was being whipped by sixty-knot winds and riding a seemingly endless onslaught of fifty-foot waves generated by Sub-Tropical Storm Andrea. There were many aspects of this rescue that went right that morning. First and foremost was that the sailors had the wherewithal to take their 406 Emergency Position Radio-Beacon (EPIRB) with them when they abandoned their sailboat. The 406 EPIRB enabled the Coast Guard C-130 aircrew to locate the raft via their direction finding (DF) equipment and vector my aircrew directly to the raft saving us precious time and fuel. I will never forget the feeling of relief when the C-130 pilot used his wing to point to the raft and transmit, "They're off the left wing.....right… …NOW!" I was relieved that we would not have to search for a little raft in those giant seas that morning. I had learned early in my career that taking as much "search" out of "search and rescue" was the best way to go in this business. The mariners in that raft understood the importance of the EPIRB and what it could do for them during their perilous situation. I can't help but wonder if users of Satellite Emergency Notifications Devices (SENDs) completely understand what their devices can and cannot do for them during this and many other types of emergencies.



A SEND uses satellite (not cellular) technology to notify a commercial (not government) communication center (CCC) of the user's situation or distress. Also, SENDs are not part of the internationally recognized satellite system for search and rescue (called COSPAS-SARSAT), such as EPIRBs, emergency location transmitters (ELTs), or personal locator beacons (PLBs). In fact, SENDs will most likely never be part of that system due to legal, privacy and corporate security concerns.



However, The National Search and Rescue Committee (NSARC) have formed a working group consisting of several international organizations and manufacturers to determine how SENDs can be integrated in the U.S. SAR Response System. Two of NSARC's goals are to better coordinate the dispatch service between the commercial operations services and the U.S. SAR Response System as well as help minimize public confusion to what each model of SEND will do in regards to alert and response. Even when these new devices are eventually incorporated into the U.S. SAR Response System, users must have a thorough understanding of the capabilities and limitations of their SEND.

The capabilities of SENDs vary widely. Less expensive models in the $150 range are able to send a standard, pre-defined text message via satellite but are unable to receive a message. This can result in the sender not knowing if a message was actually received. Also, while the CCC will know the user is in distress, the CCC will not know the nature or severity of the distress. A $500 model can send a customized message but is still unable to receive any messages. A SEND is capable of two-way text messaging will normally cost over $1,400 and require a $30 month subscription. Being aware of these limitations can be essential when attempting to contact help.

The following are a few of the characteristics SEND owners should analyze when deciding what type of device to use:

Durability – Will the marine

Satellite Emergency Notification Devices: Can They Help Take Search Out of Search and Rescue?

CDR Nevada Smith

environment render it useless after a few boating seasons? Is it waterproof? Can you change the batteries while in the

water or rain? How does it perform in extreme temperatures?

Crash worthiness – Will it transmit after being dropped or subjected to a severe impact?

Energy use – How often will you need to change the batteries? Will you need special tools to do so? Could you change the batteries while wearing gloves?

Signal strength – Will the device have the ability to transmit a message while under foliage, in a valley, or inside wreckage or even a coat pocket? Does it only work in a clear line of sight environment? Will the device transmit if held at different angles and, if so, is the signal weakened in any way? Is the SEND effective worldwide or just the U.S.?

Simplicity – Who in your party will be able to operate the device? Can it be easily operated in the dark or heavy seas or both?

Direction Finding (DF) – Will an aircraft be able to DF the signal? I will the CCC know your location if the device breaks for the batteries die and you continue to drift.

As with any piece of gear, mariners should be well versed in the capabilities of their crew, passengers and equipment prior to entering any hazardous environment. This is especially true for new equipment

that is not quite fully understood by the general public or integrated into an official search and rescue system. I urge everyone to be fully cognizant as to what a SEND provides so you can help first responders take the search out of search and rescue.

NASAR is an education association comprised of thousands of dedicated paid and nonpaid personnel – all active or interested in search and rescue, disaster aid, emergency medicine and awareness education.

The Four Stages of Cold Water Immersion

RADM Alan Steinman, USPHS (Ret) and Gordon Giesbrecht, PH.D.

Falling into cold water can be life-threatening. There are four stages of cold-water survival, and each presents the survivor with a different challenge. The stages are: 1) cold-shock; 2) functional disability; 3) hypothermia; and 4) post-rescue collapse. It is important to understand the risks of each stage in order to be properly prepared to survive a cold water emergency.

Stage 1: Cold-shock (0-2 minutes): Sudden immersion in cold water causes an immediate fall in skin temperature which triggers several body reflexes. These reflexes are collectively known as the "cold-shock" response, and they last for just the first few minutes after falling in. The cold-shock responses are: 1) instantaneous gasping for air; 2) sudden increase in breathing rate; 3) sudden increase in heart rate; 4) sudden increase in blood pressure; and 4) dramatic decrease in breath-holding time. If your head is underwater and the cold-shock reflex causes you to gasp and inhale (and simultaneously decreases your ability to hold your breath), you may breathe in water and drown. This has happened often enough in the past that the Coast Guard had a term for it: "sudden drowning syndrome." It's one reason why a personal flotation device (PFD) can be life-saving – it helps keep your head out of the water during the first few minutes the cold-shock reflexes are active.

The increase in blood pressure and heart rate from sudden immersion into cold water can also be fatal. These rapid changes in the cardiovascular system can trigger irregular heartbeats or even cardiac arrest in susceptible individuals. But even aside from the potential for cardiac arrest, the irregular heartbeats and rapid breathing rate can be incapacitating for someone struggling to keep his head above the waves. This is yet another good reason why a PFD can be life-saving in this situation: it helps you stay afloat until your heart rate, blood pressure and breathing rate return to more normal levels when the cold-shock reflexes diminish.

Sudden immersion in cold water also drastically reduces your ability to hold your breath. For the average person who can hold his breath for 60 seconds in air, breath-holding time is reduced to 20-25 seconds or less when submerged in water colder than about 50˚F. This would obviously be a problem for someone trying to escape from a submerged automobile, vessel or aircraft. Finally, the rapid breathing that occurs during the first few minutes of cold-water immersion can lead to a drop in blood levels of carbon dioxide with subsequent mental confusion or even unconsciousness; both can significantly increase your chances of drowning, particularly if you're not wearing a PFD.

Stage 2: Functional Disability (2-30 minutes): If you survive the cold-shock reflexes after falling overboard, cold water can still affect you in other ways. It is much harder to swim in cold water than it is in warm water. Your muscles get cold, making it harder to use your arms and legs to stay afloat. And cold water is a bit more viscous than is warm water, requiring you to work harder to swim or stay afloat. Your hands get cold quickly and you lose manual dexterity and grip strength. This can affect your ability to grasp a rescue line or life ring or even to help pull yourself back aboard your vessel. Both swimming failure and loss of manual dexterity can occur during the first 30 minutes after falling into cold water. Again, a PFD would be life-saving during this period, as it would dramatically decrease your need to swim to keep your head up.

Stage 3: Hypothermia (> 30 minutes): Hypothermia is a decrease in the body's core temperature (i.e., a drop in the temperature of the body's vital organs below 95˚F) resulting from excessive heat loss to the cold water. Hypothermia is not really a threat until you have been immersed in cold water for at least 30 minutes. The body cools relatively slowly, even in extremely cold water. When the body's temperature falls to around 86-90˚F, you will lose consciousness and likely drown. But even in ice-water, this could take an hour or more to occur. In warmer water, the time to unconsciousness could be much longer, depending on your body size and weight (large and/or obese people survive much longer than small, skinny people), your clothing, your state of health, the sea-state, and particularly on whether you're wearing a PFD or some other means of flotation. But without a PFD or supplemental flotation, unconsciousness in the water usually means immediate drowning. Survival times for the average sized person wearing an insulated work suit with inherent buoyancy (e.g., an insulated exposure coverall and medium-weight undergarments – not a survival suit) in 45˚F water, even in heavy seas, could be as long as 5-8 hours. For the same person wearing a survival suit, properly donned before entering the water, the survival time could be as long as 36 hours!

Stage 4: Post-Rescue Collapse (> 30 minutes): A survivor is still at significant risk even after removal from the water. Significant levels of hypothermia can slow the body's normal defenses against a sudden drop in blood pressure. This can occur when the survivor is removed from the water, particularly if he/she is rescued in a vertical posture and not promptly placed in a horizontal posture in the rescue vessel or aircraft. The hypothermic heart and arteries cannot adjust fast enough to the drop in blood pressure, which may cause loss of consciousness, irregular heartbeats or even cardiac arrest. Furthermore, the body's core temperature continues to fall even after a survivor is removed from the water, a phenomenon known as "afterdrop". If the afterdrop lowers the heart temperature too far (e.g. below about 77˚F), cardiac arrest may occur. Finally, metabolic changes in the body caused by prolonged immersion hypothermia can contribute to potentially fatal cardiovascular effects even after a survivor is rescued. For all of the above reasons, rescuers should be particularly mindful of the ABC's of first aid, handle a hypothermic victim gently, begin gentle rewarming efforts in the rescue vehicle, and transport the survivor to a site of definitive medical care.

SAR Cold Water Statistics

The following table lists cold water incidents by district from FY 2006 through FY 2010.

Cold Water Incidents		FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	5 year total
CGD ONE (000341)	Person in Water (Ice)	13	9	4	4	6	36
	Stranded (on ice)	2	4	1	1	3	11
	Mass Rescue Ops	1	0	1	0	0	2
	Cold Water Incidents	16	13	6	5	9	49
CGD FIVE (000304)	Person in Water (Ice)	6	2	6	4	1	19
	Stranded (on ice)	0	2	0	0	0	2
	Mass Rescue Ops	0	2	0	0	0	2
	Cold Water Incidents	6	6	6	4	1	23
CGD SEVEN (000264)	Person in Water (Ice)	11	2	4	1	4	22
	Stranded (on ice)	0	1	0	0	0	1
	Mass Rescue Ops	1	0	0	2	1	4
	Cold Water Incidents	12	3	4	3	5	27
CGD EIGHT (000483)	Person in Water (Ice)	1	4	2	3	3	13
	Stranded (on ice)	1	0	0	0	0	1
	Mass Rescue Ops	1	3	1	1	4	10
	Cold Water Incidents	3	7	3	4	7	24
CGD NINE (000169)	Person in Water (Ice)	27	44	40	48	56	215
	Stranded (on ice)	12	26	20	26	17	101
	Mass Rescue Ops	2	0	0	1	0	3
	Cold Water Incidents	41	70	60	75	73	319
CGD ELEVEN (000145)	Person in Water (Ice)	11	5	5	3	0	24
	Stranded (on ice)	0	0	0	0	0	0
	Mass Rescue Ops	2	0	1	2	0	5
	Cold Water Incidents	13	5	6	5	0	29
CGD THIRTEEN (000123)	Person in Water (Ice)	2	1	0	2	1	6
	Stranded (on ice)	1	0	0	0	0	1
	Mass Rescue Ops	1	0	1	1	0	3
	Cold Water Incidents	4	1	1	3	1	10
CGD FOURTEEN (000456)	Person in Water (Ice)	0	0	0	0	0	0
	Stranded (on ice)	0	0	0	0	0	0
	Mass Rescue Ops	0	0	1	0	0	1
	Cold Water Incidents	0	0	1	0	0	1
CGD SEVENTEEN (000100)	Person in Water (Ice)	0	0	0	0	0	0
	Stranded (on ice)	1	6	2	2	1	12
	Mass Rescue Ops	0	0	0	1	0	1
	Cold Water Incidents	1	6	2	3	1	13
CG Wide Cold Water Incidents (By Fiscal Year)		96	111	89	102	97	495

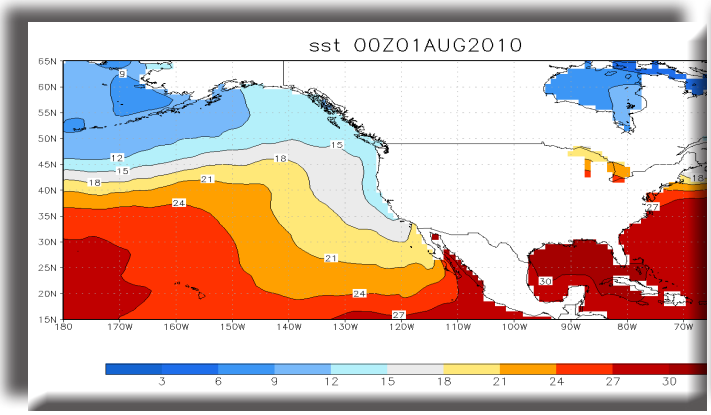
United States 2010 Sea Surface Temperatures

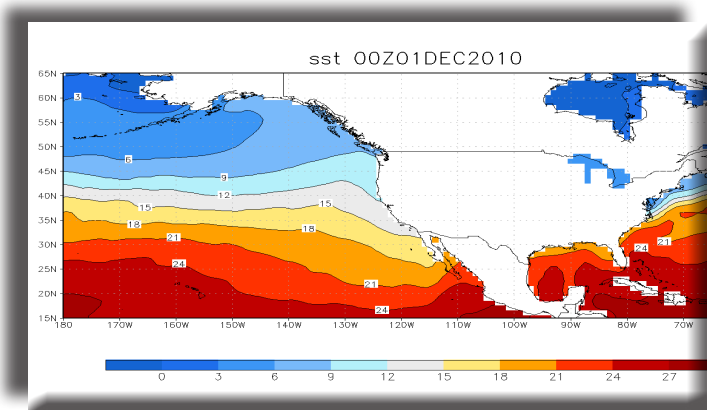
The warmest West Coast water surface temperatures months during Calendar Year 2010 were May through November. Water temperatures ranged from 32 degrees Fahrenheit to 70 degrees Fahrenheit during those months. Water surface temperatures were warmest off the coast of San Diego, CA and became colder as you proceed north. The warmest water surface temperatures in 2010 were recorded off of the Coast of San Diego in August and in October where temperatures as warm as approximately 70 degrees were recorded. (Temp Bar below is in Celsius)

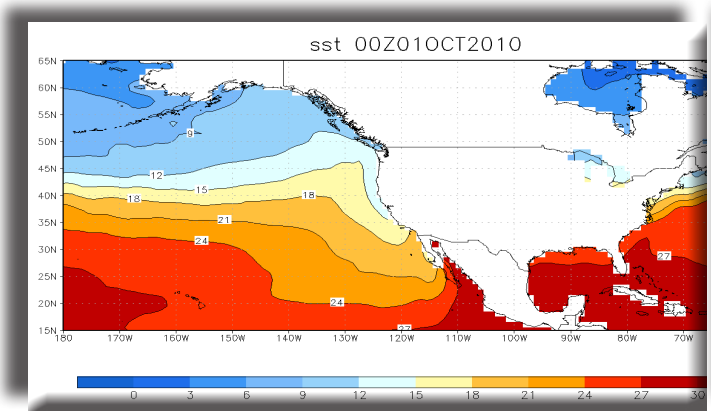
The warmest East Coast water surface temperatures months during Calendar Year 2010 were May through December. Water temperatures ranged from 48 degrees Fahrenheit to 86 degrees Fahrenheit during those months. Water surface temperatures were warmest off the coast of Key West, FL and became colder as you proceed north. The warmest water surface temperatures in 2010 were recorded off of the Coast of Key West from June through October where temperatures as warm as approximately 70 degrees were consistently recorded. (Temp Bar below is in Celsius)

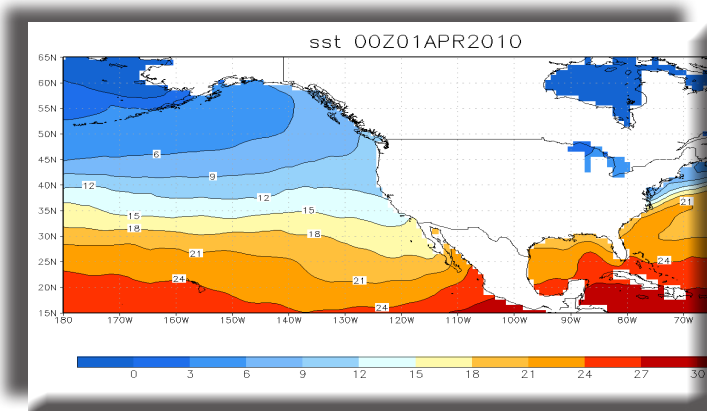
The coldest West Coast water surface temperatures months during Calendar Year 2010 were December through April. Water temperatures ranged from -40 degrees Fahrenheit to 59 degrees Fahrenheit during those months. Water surface temperatures were coldest off the coast of Alaska and became warmer as you proceed south. The coldest water surface temperatures in 2010 were recorded off of the Coast of Alaska from December through May where temperatures as cold as -40 degrees was consistently recorded. (Temp Bar below is in Celsius)

The coldest East Coast water surface temperatures months during Calendar Year 2010 were January through April. Water temperatures ranged from 37.4 degrees Fahrenheit to 75 degrees Fahrenheit during those months. Water surface temperatures were coldest off the coast of Washington, Maine and became warmer as you proceed south. The coldest water surface temperatures in 2010 were recorded off of the Coast of Washington, Maine from January through April where temperatures as cold as 37 degrees was consistently recorded.









The Sea Surface Temperature tables are provided by NOAA at http://nomad3.ncep.noaa.gov/cgi-bin/pdisp_sst.sh

CG Moves to a New Survival Model

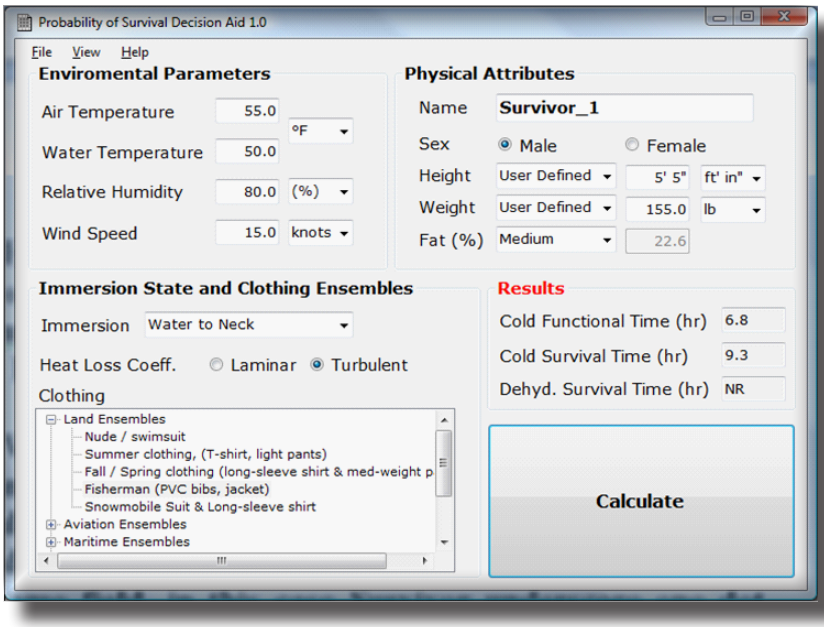
Art Allen

The U.S. Coast Guard Research and Development Center working with the U.S. Army Research Institute of Environmental Medicine (USARIEM) in Natick, Massachusetts, developed the Probability of Survival Decision Aid (PSDA) for the Coast Guard. The PSDA model has replaced CESM, the Cold Exposure Survival Model as the Coast Guard's primary source for search and rescue survival decision support.

PSDA is a six cylinder model that represents the head, torso, arm, hand, leg and foot. Each cylinder is sub-divided into concentric layers representing the core, muscle, fat, skin and optional clothing. Circulation is represented as a one-loop system and is an independent compartment. It takes into account physiological mechanisms, including metabolic heat production, sweating heat loss, respiratory heat loss, and blood circulation. The model predicts both the core and regional temperatures to predict hypothermic survival, and the evaporative water loss through the skin and lungs, plus a constant daily loss of half liter of urine per day, to estimate dehydration survival. So PSDA is both a heat (hypothermia) and water (dehydration) loss model.

PSDA will allow the Coast Guard to extend survival predictions from cold water conditions to moderate and warm water and air conditions. PSDA makes predictions out to 10 days.

CESM was developed by Canadian researchers. CESM uses a (continued on page 34)single cylinder to represent the body, with the lower portion immersed in water and the upper portion exposed to air. Heat was generated only by shivering and escaped through from the core through a ring of fat and clothing. CESM has proven to be an effective predictor of survival times in cold water and cold air conditions, but was limited to 36 hours for moderate and warm water conditions.



PSDA is accessed from the Search And Rescue Optimal Planning System (SAROPS) servers either as a standalone module or from the SAROPS SAR toolbar. PSDA like CESM has a graphical user interface for the inputting environmental parameters and the physical attributes of the survivor. However, PSDA's clothing ensembles can be applied to the individual segments. Being able to apply clothing insulation to the individual segments has allow the model to add a host of wetsuits to the clothing ensembles and with further work additional clothing ensembles or articles could be added.

If the survivor is on land or on a boat, then PSDA can estimate survival times based up both hypothermia and dehydration rates. Lethal dehydration is taken to be 20% of original body weight.

For those survivors that are immersed in water PSDA predicts the time the core temperature will reach 34oC (93oF) Cold Functional Time and 28oC (82oF) Cold Survival Time. At Cold Functional Time the survivor has lost both the physical and cognitive abilities required to self-help. At Cold Survival core temperatures, the survivor will lose consciousness, and in the marine environment, will lose the ability to protect the airway; the consequence is drowning will soon follow.

Maritime Safety in Polar Water

Mr. David L. Edwards

Around midnight, evening of 22nd November 2007, as reported by a passenger on board the passenger vessel EXPLORER, the ship hit a "wall of ice" in Antarctic waters. At about 1530 local time on 23 November, the EXPLORER sank in 1,300 meters of water 25 miles from land. The 54 crew and 100 passengers abandoned the ship into lifeboats and Rigid Inflatable Boats. Five hours after rescue by another passenger vessel, the scene changed to gale force weather.

Even before this incident, the international community was hard at work to improve maritime safety in Antarctic Treaty waters. Over a span of 3 tourist/summer seasons (October-March) in Antarctica, 2006/7, 2007/8, and 2008/9 there was one evacuation of a passenger ship each season. The other 2 vessels grounded and the 100s of passengers and crew were recovered by another passenger ship. In all three cases, the weather was favorable ... but no one believed that the weather would always be favorable.

As more ships and tourists continued to go to Antarctica, the U.S. State Department in conjunction with the U.S. Coast Guard initiated proactive measures to ensure proper maritime safety measures were in place. Acting under the "Antarctic Treaty Consultative Meeting (ATCM)" – the forum established under the Antarctic Treaty - the "Guidelines for Ships Operating in Arctic Waters" were considered. The ATCM sought the support of the International Maritime Organization (IMO), the global body which oversees international waters. On 2 December 2009, the IMO adopted "Guidelines for Ships Operating in Polar Waters" as Assembly Resolution A.1024(26) (continued on page 35) to include Antarctic waters.

As focus on Antarctica was growing, so too did concern grow about the further opening of shipping lanes in the Arctic Ocean. [insert SAR case by CDR Moser.]

At the request of the ATCM and with Arctic shipping strongly in mind, the IMO commenced work on transforming the "Guidelines" to a code, that is, a mandatory requirement for shipping. The IMO Sub-Committee on Ship Design and Equipment (DE) is the lead group at IMO on this matter. The DE Sub-Committee is going full speed ahead to develop the "Mandatory Code for Ships Operating in Polar Waters (Polar Code)." Other IMO Sub-Committees, including the "Radiocommunications and SAR (COMSAR)" will be included in its development. The Polar Code will cover both the Arctic and Antarctic international waters; and, will have mandatory as well as some non-mandatory parts.

As was done under the prior "Guidelines", the Polar Code is focused on ship standards. However, the scope of the Polar Code has been expanded to give better consideration to search and rescue as well as communications needs. CG-534 is working closely with CG-521/Office of Design and Engineering Standard. Together we are heavily engaged with our other agency partners in both the ATCM and the IMO decision-making bodies.

Much work remains ahead but SAR is not waiting for a major tragedy to first justify our effort.

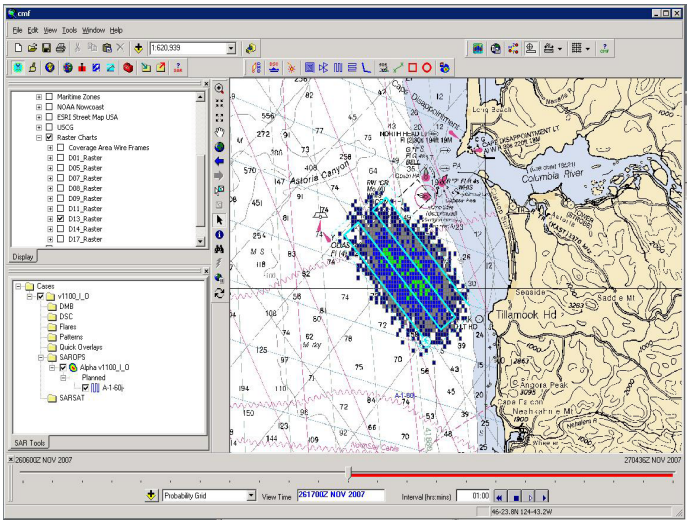
International Deployment of SAROPS

Mr. Jack Frost

The Coast Guard's Search and Rescue Optimal Planning System (SAROPS) is available for international distribution. A number of different countries have expressed interest. To date, SAROPS has been deployed to Malta and Mexico. Deployment to Vietnam is in progress and Lebanon has requested SAROPS.

A foreign country desiring SAROPS should first contact the U. S. Embassy in their country. From that point, there are two basic methods or paths for requesting SAROPS deployment internationally. One is through the International Mobile Education and Training Team (MTT) program administered by the Coast Guard's Office of International Affairs (CG-DCO-I) and the other is through the Coast Guard's Foreign Military Sales (FMS) program administered by the Office of International Acquisitions (CG-922). The procedures to be followed for MTT and FMS requests are somewhat different. The path that makes the most sense in each specific instance is determined by negotiations involving the Coast Guard, the U. S. Embassy, and the host country.

Deployment packages are developed on a case-by-case basis, tailored to the requesting country's needs. So far, all deployments have been done using the three-phase process outlined below.



Phase I (Pre-Installation Technical Assessment): A subject matter expert team visits the host nation to determine whether it has the hardware and support requirements necessary to successfully install and operate SAROPS. The current state of SAR search planning in the host nation is also assessed to determine training requirements.

Phase II (SAROPS Installation): Phase II consists of installing the SAROPS software in pre-determined locations and ensuring the system is operating effectively.

Phase III (Technical Assistance and Operational Training): Phase III provides follow-on "over the shoulder" technical assistance if/as needed and on-site SAROPS training for SAR controllers responsible for planning and coordinating maritime searches.

Deployments to Malta and Mexico were successfully completed in 2009. SAROPS installation and technical assistance were provided by USCG Command and Control Engineering Center (C2CEN, now C3CEN) personnel. SAROPS training was provided by Office of Search and Rescue (CG-534) and U. S. National SAR School personnel. Installation and training in Vietnam are expected later this year, as are installation and training in Lebanon.

Ten CG Mass Rescue Operational Realities

Mr. George "Rob" Lee and Mr. Rick Janelle

Why should you read this? Before answering this question, lets' take a moment to think about the past and present in regards to mass rescue events.

October 4, 2010 marked the 30th anniversary of the dramatic rescue of 520 passengers and crew from the burning MV PRINSENDAM in the hostile Gulf of Alaska. This "mass rescue operation" (MRO) was so impressive it is second on the list of top ten rescues in Coast Guard history as rated by the organization's historians. Only Hurricane Katrina operations in 2005 rated higher.

USCG PRINSENDAM response file photo

In 2007, the MV EXPLORER struck an iceberg and sank in Antarctica. In 2009, US Airways' Flight 159 "Miracle on the Hudson" incident resulted in the successful water landing and rescue of all on board. In 2010, the MV CLIPPER ADVENTURER grounded in the high Arctic. It took two days for the nearest Canadian Coast Guard rescue vessel to arrive on scene. What was unthinkable or unimaginable in 1980 is today's reality. The 520 people rescued from the PRINSENDAM would all easily fit in just two lifeboats from today's super cruise ships. Cruise ship routes now span the globe, and continue to expand into new markets. Adventure cruises now sail to the Arctic, Antarctic, and other remote corners of the seas. State and local ferry vessels, day tour operations, dinner cruises, offshore gaming vessels, commercial freighters, and fishing industry vessels have also grown in number, size, and geographic area of operation. As a result, the next great event may be 15 times larger than the PRINSEDAM and occur in an even more isolated region.

Thirty year old cruise ships are rare. Not so for Coast Guard cutters. Our capacity for mass rescue events has not kept pace with the potential. Mass rescue operational planning is more critical than ever, but often remains undervalued by SAR organizations that are "responders", not planners. So you should continue to read if you are concerned about your organization's ability to meet the geometrically increased challenges for current and future MRO events.

This article will present a list of 10 US Coast Guard Mass Rescue Operational Realities condensed from actual response and exercises that highlight the need for MRO specific planning, and introduce recommendations and job aids to improve local MRO preparedness.

Definition: A mass rescue operation is defined by the International

Maritime Organization (IMO) as "a civil search and rescue activity characterized by the need for immediate assistance to a large number of persons in distress, such that the capabilities normally available to search and rescue authorities are inadequate". IMO's "*Guidance for Mass Rescue Operations*" (COMSAR/Cir 31) dated 6 February 2003 provides additional valuable MRO background and response information.

MRO's are low-probability, high-consequence events. Each MRO response will be unique depending on the type of craft or structure involved, number and condition of victims, location, weather, response assets available, capabilities of the crew and ownership, and several other contributing factors. But MROs also share common "operational realities" that must be considered in preparing for and responding to such incidents. Although only briefly described here, each item is worthy of a lengthy discussion, and certainly requires careful consideration in any MRO planning document and incident response.

Reality #1. *MRO incidents are not confined to a single organization, or to strictly search and rescue (SAR) functions.*

No single company or agency will possess all the tools or assets required for success. Coordination with multiple local, state, regional, or international response partners will be required, not only for the challenging on water SAR operation, but also for

security, pollution/salvage, investigative, medical, shore side shelter and support, transportation, and other functional actions that will be concurrently undertaken. If you make a list of actual agencies involved it will include, at a minimum, the lead SAR agency, ship personnel, ship owners, "Good Samaritan" vessels, port community officials, agents, National Transportation Safety Board (NTSB), Customs Border Patrol (CBP), local fire/police, local and state public health officials, hospitals, media, transportation companies, various NGOs, and others. The list is extensive and each organization is dependent on the actions or information received from a partner to be successful. To make it all work, an MRO plan is required.

The Incident Command System (ICS) is the management process best suited to effectively organize all involved agencies to manage the various MRO operational functions. In fact, Homeland Security Presidential Directive #5 requires the use of ICS.

Fitting the traditional SAR organization and procedures into the ICS umbrella takes a willingness to recognize and accept the need for change, and a commitment to invest in the planning, training and practice to make it work. With MROs being low occurrence events, it is often difficult to make this commitment, especially since we have been successful in the past. However, with the increasing capacity and remoteness of operations for commercial vessels and jumbo airliners, this change will be needed if the "unthinkable" occurs.

To avoid duplication of effort or conflicts, Coast Guard MRO plans must dovetail with the emergency plans of each significant response partner. One tool to help with plan compatibility is a simple joint quick start guide listing the response expectations and key actions of major response partners. As an example, a Coast Guard "Multi-Agency Quick Start Guide for Passenger Vessel Emergencies" is found in Figure 1, or can be viewed more clearly on the Passenger Vessel Safety Homepage at http://www.uscg.mil/pvs/Handouts.asp . Note this tri-fold

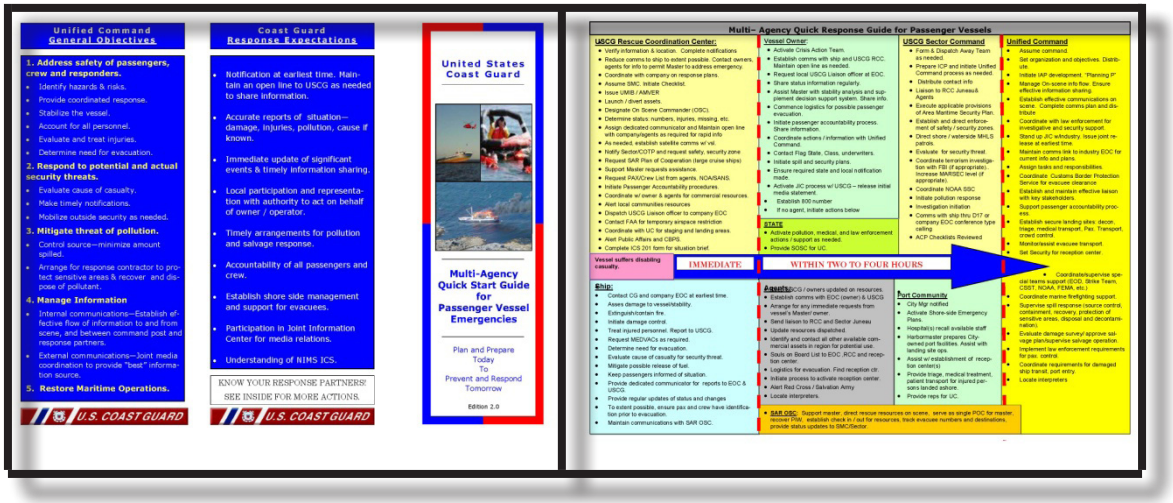


Figure 1: USCG Multi-agency Quick Start Guide

brochure also lists the unified command's response objects that are a vital component of the ICS system. Additional information concerning *"Unified Command Recommended MRO Response Priorities, Objectives, and Tasks"* can also be found on the web site.

Another practical option to help achieve plan coordination is to work with your partners to develop a draft ICS 201 incident briefing document which provides much of the guidance of the quick start guide, but would also include your draft organization chart and identify key facility locations including command post, landing site(s), and reception center(s). No matter how you do it, get to know your partners, understand the the role they play, and the tools and information required for their success.

The next two operational realities are closely related and will be discussed jointly.

Reality #2. *Accountability of passengers and crew will be elusive and difficult. An accountability process must be developed, implemented and stressed from the start, and then checked and double-checked at each opportunity.*

Reality #3. *There will be delays, often lengthy, between rescuing and officially accounting for people. Pressure to "hurry" the process will often lower the accuracy.*

There is no standard procedure for managing the accountability process. The best available technology is often pencil and paper. If you're lucky, there will be an official manifest that provides a starting point to check off the names of rescued survivors, but even the accuracy of the manifest must be double checked. Manifests may not include non-revenue, short term technicians, marine pilots, or other individuals. To make matters worse, on many commuter ferry operations there is no manifest – only a head count taken as passengers walk on board. If this is the situation, it is important to include crew in the final head count number. Airline manifests are tightly controlled after an incident, and rescuers will often be provided with just the number of individuals on board.

Accountability will take time. Time to recover the evacuees to a stable platform, time to count the numbers onboard, time to double check the numbers, time to transport to shore, time to work the manifest (if available) and transition from head count to names, and time to run down the errors that should be expected. Ac-

countability should precede at best speed. Rushing the process will only compound the errors, increase frustration, and in the end slow the process down.

How to execute the accountability process during a MRO incident is a universal problem. The Canadian Coast Guard (CCG) is refining an initiative titled "Casualty Tracking System for Multiple Casualty Incidents" (CASTRACK). This system is designed to track and account for all casualties involved in a major marine incident. While this project is focused on a CCG application pertaining to large passenger vessels, the intent is for the system to be adaptable and useful to other response agencies.

Accountability must be addressed in your MRO planning. As a minimum, your plan should determine which organization will ultimately manage the process, and how and where accountability information will be collected, shared, collated and checked. To help get you started, a "*6-Step Process for Evacuee Accountability, Care, and Processing Guide*" is available at http://www.uscg.mil/pvs/Handouts.asp and can be amended for local conditions. Importantly, make sure to include responder accountability in your process. This is especially true for rescue swimmers that may be deployed on scene for extended periods of time.

As a practical matter, buses, (tour, city, school, etc) are excellent tools for accountability. Survivors can be loaded on to buses, provide basic food and drink, be warmed and provided with basic first aid. Buses also contain survivors until they can be "accounted for" – no one gets off the bus until they have signed in and required information is recorded and verified. Provide guides for each bus. Guides can be ship hotel staff, or local volunteers who are familiar handling and directing large groups of people and understand the accountability process. Due to the value of buses, it is strongly recommended that bus companies be involved in the development of local MRO plans, and be included in training and exercises.

Reality #4. *The demand for information from internal and exterior requestors will be overwhelming unless a process is implemented early to manage the content and flow of communications.*

How you communicate, what you communicate, when you communicate, and who you communicate and share information with will be critical, perhaps the single most important factor. This is a huge topic, one that requires deliberate planning with your response partners. Planning involves hardware compatibility, frequency use, content and format agreement, release authority, information security, social media concerns, public information policy and other factors that impact communications. Maintaining a common operations picture between response partners requires a well planned and practiced system. Any level of success will depend on your communications capabilities.

INTERNAL COMMUNICATIONS refers to communications internal to the response organization. Keep in mind, this organization includes not just Coast Guard units, but also all the other response agencies involved. Early in a response, the Coast Guard is often the "gatekeeper" of information. OSCs must immediately report "critical information" to the SMC. The SMC must not "hoard" this information, but actively push it out to response partners that may be remotely located from the command center. Information that must be pushed includes numbers of victims, condition of victims, arrival times to ports, rescue vessel names and docking requirements, safety concerns, and anything else that is required for mission completion by the various agencies. As the incident matures, other response partners will also begin to push the information they collect. Recommended landing sites, survivor tracking and accountability, status

reports, and security concerns are examples of information the Coast Guard needs but will not necessarily collect. Dispatching liaison officers to help collect and share critical information should also be considered a best practice.

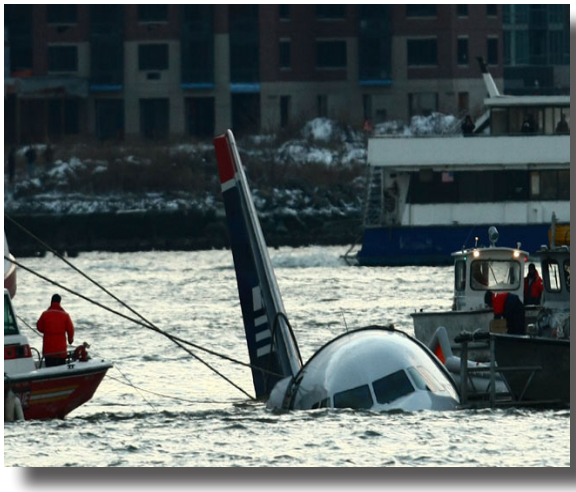
Additionally, for maritime incidents the USCG will become the initial "de facto center" for victim and survivor accountability information. A coordinated plan for how to manage this one aspect of information, as well as the process for release of survivor and victim information, must be implemented early in the event. Pre-planning will make this an easier challenge.

EXTERNAL COMMUNICATIONS refers to communications with contacts outside the response organization. For MRO events, this will largely be family and friends of victims and news media. Both will be demanding. Neither can be ignored.

Once again, pre-planning is critical if the response organization will be able to provide the first and remain the best source of information. Your response plans must outline a process for establishment of a call center for relatives and friends, as well as a media strategy that includes a joint media center and a methodology for unified command press releases and media briefs. Each response partner may already have a media specialist. Joint planning and training opportunities for these specialists is highly recommended.

To stress the importance of external communications and their value to the response, following are two communications related after action comments from real events.

Alaska Air Flight 261 Crash Off California in 2000. ***The More PIOs The Better.*** "When the Joint Information Center (JIC) was es-



tablished in Port Hueneme about three hours post incident, there were 2 USCG Public Information Officers (PIOs) on scene. An hour later, there were 4 USCG PIOs, local LE PIOs, USN staff and others on scene. Even then, the JIC staff was barely able to handle the crush of incoming phone calls and to deal with the media staged at the base theater. Get a fair number of PIOs on scene ASAP and have others ready to deploy."

EGYPT Air Flight 990 Crash Off MA 1999. ***Requests for Information Overwhelms Operations.*** "…the demand for public affairs and our commitment to informing both internal and external "customers" required a significant investment of Unified Command's time and patience. In both tragedies (including JFK Jr. aircraft crash), the JIC preformed its core mission well, however, …it was slow to form, hesitant to initiate and distribute media fact sheets to regional units, and ceased operations at the end of the workday. The JIC's "shutdown" resulted in other ICS cells, particularly the operations cell and surrounding units, fielding a significant number of media/public calls. It makes sense the JIC stands up with the rest of the Unified Command and remains intact throughout the operations until demobilization. Additionally, a JIC exit strategy needs to be planned for to lead the press to a public affairs office for follow up questions instead of the local CG commands. The importance of the JIC cannot be overemphasized. The volume of briefings, inquiries, calls, and faxes can overwhelm the main response cells of a Unified Command. Regular PIO/JIC training for units is important."

Invest the time and effort in your communications planning. It will pay huge dividends.

Reality #5. *Dedicated SAR resources will be limited and "Good Samaritan" vessels will be critical for success in the majority of incidents.*

In most regions, Government SAR assets are spread too thin to ensure they are always the first to arrive on scene. For the majority of locations, private "Good Samaritan" vessels will be the first rescue resource to arrive.

To be of maximum value, the crews must understand the search and rescue organization, critical communication requirements, the duties and responsibilities of the first vessel on scene, and be trained to evaluate and mitigate associated risks in order to conduct a safe rescue operation. Unfortunately, most "Good Sams" will have no formal training in SAR operations and will need a higher level of support and direction from the On Scene Coordinator (OSC) or SAR Mission Coordinator (SMC).

SAR organizations are encouraged to provide basic SAR training to educate potential Good Samaritan vessels in their region. Training should review the functions of an OSC, communications requirements, safety and other concerns. Encourage the development of a company basic "rescue assistance" plan or policies, and investigate opportunities to include local Good Samaritans in training events. The "*Guidance for Good Samaritan Vessels Assisting in Maritime Search and Rescue*" handout provides basic information and is available at http://www.uscg.mil/pvs/Handouts.asp.

Expect Good Samaritan vessels to have difficulties recovering survivors onto the deck. They are not designed for victim recovery. For many deep draft commercial freight ships or tank ships this is especially troublesome. Throw in age, fatigue or injury factors of the survivors and the problem increases. Research and development is being done to help solve this problem, but until more options are available, this is a case by case situation. Begin to investigate solutions for this issue as soon as the characteristics and recovery limitations of the rescue vessels are known. During the PRINSENDAM response, helicopters were used to lift survivors from lifeboats to the deck of a Good Samaritan tank ship.

Reality #6. *Coast Guard SAR Mission Coordinators (SMC) and On Scene Coordinators (OSC) receive minimal training in the extreme demands of managing MRO activities.*

Professional SMCs and OSCs are very good at their jobs. For the majority of responses they are comfortable taking control of the situation, issuing orders, directing people and assets. But are they prepared for the immense confusion, dozens of rescue boats, extreme communication demands, and thousands of survivors, many injured, that may result from a mass evacuation operation? Are they prepared to initiate passenger accountability and track all on scene rescue assets? In responding to the "unimaginable", it would be easy to become "lost", especially if no prior experience or training has provided a foundation for action.

Take the opportunity to provide MRO specific guidance, training and exercises to both SMCs and OSCs. Provide guidance for accountability, asset tracking, critical information reporting, and communications best practices. Ensure they understand how the SAR organization will fit into the Unified Command that will be employed. Discuss coordination with shore side agencies and the importance of sharing information quickly. Review MRO safety concerns. One safety item of particular concern is the awareness of the maximum number of recovered survivors that can be loaded onto rescue boats and still maintain stability in the on scene conditions.

Both the SMC and OSC will need extra help. The demands of the response will quickly overwhelm their normal capacities. A trained and practiced management team using ICS principals will be required to maintain a common operational picture with all response partners, track response resources, coordinate accountability, man-

age external affairs, ensure proper documentation, and execute actions beyond the normal scope of SMC and OSC duties. For this support to work and not add to the frustration and confusion of the event, the staff must regularly train and practice as a team. This training investment cannot be ignored.

Reality #7. *The physical or emotional condition of survivors may prevent them from helping themselves.*

Rescue swimmers will be needed on scene, often for extended periods of time.

Cold water, poor health, injuries, or emotional stress may prevent many victims from swimming to and climbing into an air deployed life raft, or climbing out of a life raft to a rescue vessel. Even the smallest actions may be too large an effort for survivors to overcome without assistance. An extended time on scene in a life boat with minimal food, water and rest will exacerbate the need for assistance.

Support needs for survivors will not end once they are on board a rescue vessel or reach shore. At landing sites, many of the survivors will be too tired to walk up a ramp or even climb aboard a bus. Some may be covered in vomit or have soiled pants. Survivors may be cold, wet and contaminated with spilled fuel necessitating decontamination and emergency clothing. The response organization must anticipate the demands and plan for survivor support along the entire continuum of care.

Realities 8 and 9 are also closely tied together and will be jointly discussed.

Reality #8. *Local communities are vital partners in providing shore side MRO response actions, but most have minimal guidance or training on the functions expected of them.*

Reality #9. *Continuum of care for rescued victims will be required. Once delivered to shore, the functions of accountability, emergency medical care, human health, shelter, food, and other survivor support needs must be continued and coordinated.*

Some of the most complicated MRO work starts once the survivors hit the beach, especially if the beach is a remote or small village with limited infrastructure. Establishing shore landing site and sheltering facilities, arranging transportation, providing medical care, food, clothing and other support all involve the local community. In fact, this portion of the response may last much longer than the on-scene rescue. Unfortunately, many Coast Guard MRO plans stop at the beach. Apparently, once survivors are handed off, it's no longer a CG problem. That may work for a few dozen survivors, but with several hundred or thousands of survivors, its' unacceptable. Imagine the confusion and chaos that will result if we fail to coordinate our actions and support the port communities. It is critical to know your partners and their responsibilities and capabilities, as well as, understand their expectations. Imagine going to a BBQ or picnic with neighbors and no one bringing the hot dogs because everyone expected someone else to provide them. No big deal for a picnic, but potentially fatal in an MRO response.

With real life MRO experience limited, response planning and coordination is required for success. The efficient operation of landing sites, emergency medical services, transportation and evacuee care will depend on our joint pre-incident planning. Several agencies may find themselves working together for the first time and the potential for confusion and competing priorities can result. Community MRO plans, training and job aids are required, and the CG should encourage and assist port partners in this undertaking. These plans should not re-invent, but rather incorporate existing local emergency response procedures and facilities, and address MRO specific differences. This port level

planning is especially important for large ports where MRO coordination involves multiple community jurisdictions, several potential landing sites, mass media outlets, and the potential for survivors to easily find their own way home before final accountability. For your review, a sample small community MRO plan for Kodiak, Alaska is at http://www.uscg.mil/pvs/Handouts.asp.

Once the plan is finalized, basic familiarity training and local exercising of the plan will be required. Any plan is only as good as the training that accompanies the document. If no one knows the plan exists, then it will not be used. If players are not given the chance to practice the MRO policies, procedures or best practices developed, they will not use them and default to what they know or think is best.

Two job aids are available to assist local communities and MRO responders with managing landing sites and reception centers. Both the "*Job Aid for Landing Site Operations*" and the "*Job Aid for Reception Center Operations*" can also be found at the link above.

Reality #10. *Past success does not guarantee future results, especially given the high turnover of Coast Guard personnel. Continuous training and plan improvement is required.*

Transfers, promotions, and retirements result in a high turnover of Coast Guard personnel, often replacing an experienced individual with someone of less knowledge of the area or contents of response

plans. For continued success, a continual training and exercising program is paramount.

This training and practicing cannot be conducted in a vacuum. Any plans, procedures, or policies created in a vacuum will implode. To be a successful multi-agency response organization, partners need to develop, train and practice jointly and regularly, especially if one partner has a high turnover rate like the USCG.

What's next? Hopefully, the main "take away" from this discussion is the need

to refocus your energy and efforts to improve your mass rescue plans. Go back and critically evaluate your plans – are they useful, do they include all your response partners, is a command organization identified, does everyone have clear expectations and directions, can you efficiently exchange information, do you know what information to exchange, is the command post identified, do you have an accountability process and does everyone know it, how will survivors be managed ashore and who is responsible? Look at the entire process. Start with the ship and carry forward to the care and feeding of survivors shore side. Make sure to engage your response partners. Do not plan in a vacuum. If you do, plan to be surprised. To help, additional information is located in the "Mass Rescue Operations Planning Guidance" document available at http://www.uscg.mil/pvs/Handouts.asp.

Once the plan is complete, conduct joint training to educate everyone on the plan and then exercise regularly. After each exercise or actual event, improve the plan. Carry through on the necessary improvements. Each successive exercise should test new solutions and not simply ID the same old problems.

Final Word. There is no guarantee of success for any MRO event. However, all SAR professionals have an obligation to invest in "planning" for success. Any plan should consider the 10 realities discussed here, and address any others identified for your region.

The Artic; 5 Recommendations

Mr. Benjamin M. Strong

On January 29, 2009 NOAA announced the release of a new report on the Arctic and responding to disasters. The University of New Hampshire/NOAA authored study, titled Opening of the Arctic Seas, Envisioning Disaster and Framing Solutions (opens as .pdf), covers a series of important topics related to shipping in the Arctic. Of great importance to Amver, however, are the common recommendations issued (opens as .pdf).

While there are 12 recommendations, 5 of them relate specifically to Amver. Let's look at the 5 that Amver can most significantly impact:

1. Multi lateral Arctic agreements/ plans for search and rescue and environmental response, designated routes, international Arctic fund. Search and rescue agreements between Arctic nations, coupled with standardized response procedures for search and rescue authorities, will greatly increase each nations ability to respond to an incident in the Arctic. As previously posted, Amver data can be quickly requested by international rescue coordination centers and should become standard operating procedures for rescue coordinators bordering the Arctic. History has proven, in the case of the Cruise Ship Prinsendam sinking, the value of having Amver participating vessels on scene. It was the crew of the tanker Williamsburgh who, along with other United States Coast Guard resources, successfully rescued 175 Prinsendam passengers.

2. Increase emergency response assets/ supplies/equipment/planning in Arctic regions, especially active regions. The likelihood of increasing the number of dedicated ice capable search and rescue assets in the Arctic is an economic and ship building issue. The Canadian Coast Guard ice breaking program includes a fleet of 18 ice breakers while the United States Coast Guard has three. While efforts are underway to increase ice breaker fleets, new vessels may be years away. How can response assets be increased quickly and cost effectively? By relying on the merchant vessels already transiting the Arctic. Encouraging merchant vessels already transiting Arctic waters to participate in Amver gives search and rescue authorities a greater number of resources to turn to when faced with disaster.

3. Expand Arctic communications and vessel transit networks. While it may sound redundant, the Amver system is a premier vessel tracking system. Couple Amver data with other vessel monitoring systems such as Long Range Identification and Tracking or AIS and search professionals can "layer" Amver data on top existing vessel transit data to provide a more complete picture of available resources. The advantage of Amver, as opposed to LRIT or AIS, is that the infrastructure already exists. There is no beta testing, no implementation period, no need to launch satellites, and no need for new antennas.

4. Real time data in Arctic regions such as weather, currents, ice, etc. The United States Coast Guard and NOAA created software to assist mariners in submitting voluntary weather reports and Amver messages. The Amver/SEAS Met Software program was created to reduce the number of reports sent from the bridge and allows for both weather observation data and Amver position information to be transmitted in one message. Vessels transiting the Arctic region should be encouraged to utilize the Amver/SEAS software to transmit their Amver messages and real time weather data.

5. Engagement of the Arctic states with cruise ships, merchant vessels, in framing solutions to the urgency of search and rescue issue in the Arctic. The United States Coast Guard has a robust Mass Rescue Operations Program focusing on many scenarios including cruise ship rescue. In addition to the Mass Rescue program the United States Coast Guard has an active Passenger Vessel Safety Program which has reached out to the cruise community to increase the frequency of exercises and is in the planning stages of full scale mass rescue exercise in Alaska in April, 2009. The current engagement by Passenger Vessel Safety/Mass Rescue Operations personnel, coupled with increased Amver participation, stands to make Arctic shipping safer.

Our ability to respond to the growing number of people working and vacationing in the Arctic dictates we adopt unconventional response postures. While many sailors may feel alone in the Arctic, Amver is here to ensure no call for help goes unanswered.

Cold Weather Tips

I – Intelligence: check the weather and ice conditions, know where you are going, and know how to call for help/assistance.

C – Clothing: wear the proper anti-exposure clothes with multiple layers. If possible, wear a dry suit to prevent hypothermia, which can occur within minutes after falling through the ice.

E – Equipment: have the proper equipment such as a marine band radio, life jackets and screw drivers.

How Software Found The Air France Wreckage

A NEW DRIFT SIMULATOR PIN-POINTS OCEAN ACCIDENTS

Rosaleen Ortiz

When Air France Flight 447 from Rio de Janeiro disappeared over the Atlantic in the early hours of 1 June, search and rescue teams had to look for survivors in an area almost as big as Great Britain. Not knowing exactly where the Airbus 330-200 went down, French and Brazilian authorities turned to new software developed for the U.S. Coast Guard that uses the location of debris to look back in time to estimate the most likely site of an accident.

The Coast Guard's "reverse drift" modeling program takes into consideration the types and locations of objects found floating in the water, the time of an accident, and environmental conditions--such as the speed and direction of ocean currents and winds--to calculate the location where an accident may have occurred.

The Air France recovery operation was the first real-world test of this reverse-drift capability, which was added to SAROPS, the Coast Guard's Search and Rescue Optimal Planning System, only in early May. It was developed by Metron, Applied Science Associates, and Northrop Grumman.

In the past, drift models could only look forward in time. If a person falls off a cruise ship, for example, a forward-drift computer simulation can determine the approximate area where the current and winds will carry him. But that works only if you know where the person fell off the ship.

The exact coordinates of an accident at sea are not always known, as was the case for Flight 447. That's when reverse-drift modeling comes in. Reverse drift helps provide the missing variable--the location of the accident--that rescue planners need in order to look for possible survivors and wreckage. A seat cushion and other small debris were the first clues that operators fed into the simulation program in the early days of Flight 447's search operation, officials say.

Once the reverse-drift simulation gave officials an idea of where the plane went down, they used forward-drift simulation to pinpoint where to look for debris, bodies, and possible survivors, all of which would be carried away from the crash site at different rates by wind and currents. (continued on page 48) "The computer model was very accurate, and that's when [the rescue teams] started to find the wing debris and the bodies," says Geoff Pagels, search and rescue specialist at the

HOW SOFTWARE FOUND THE AIR FRANCE WRECKAGE

continued

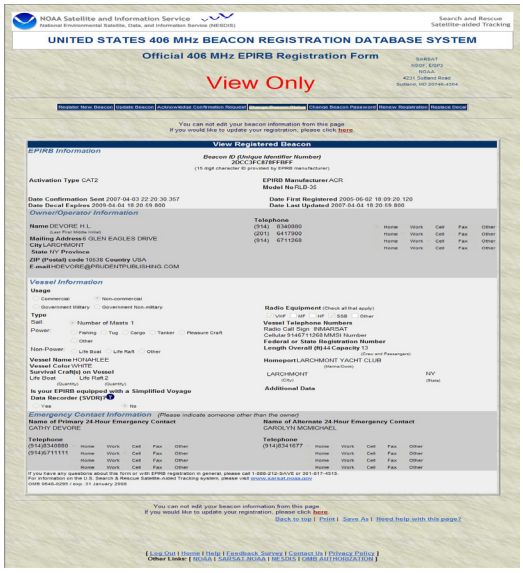
Coast Guard rescue coordination center in Portsmouth, Va., who was in daily contact throughout June with officials at the rescue coordination center in Gris Nez, France. By 15 June, search teams had found the bodies of 50 of the 244 victims and more than 400 pieces of debris from the plane, which were scattered over a 200 000-square-kilometer area. "Each time they find something, they keep coming back to us and ask us to run more simulations," Pagels says.

At sea, every object is affected by winds and currents. The effect of the current is simple. "The object goes where the water goes," says Tom Kratzke, programmer at the scientific consulting firm Metron, who wrote the code for the reverse- and forward-drift models. "The effect of the wind is much more complicated," he says.

The program uses surface area and nine other parameters of typical objects to determine how the wind will drive them.

Even though the SAROPS system is equipped with a sophisticated environmental data server, which gathers ocean wind and current information from multiple sources, environmental conditions are never fully known. So the program makes 10 000 educated guesses about the different paths that objects may take and combines them to find the most likely location.

The reverse drift gives more accurate results with each new object found but produces a larger search area as time goes by, says Jack Frost, manager of development for SAROPS. "Time is the enemy," he says.



NOAA Satellite and Information Service
National Environmental Satellite, Data, and Information Service (NESDIS)

Search and Rescue Satellite-Aided Tracking

UNITED STATES 406 MHz BEACON REGISTRATION DATABASE SYSTEM

Official 406 MHz EPIRB Registration Form

View Only

SARSAT
NOSF, E/SP3
NOAA
4231 Suitland Road
Suitland, MD 20746-4304

Register New Beacon | Update Beacon | Acknowledge Confirmation Request | Change Beacon Password | Renew Registration | Replace Decal

You can not edit your beacon information from this page.
If you would like to update your registration, please click here.

View Registered Beacon

EPIRB Information

Beacon ID (Unique Identifier Number)
2DC3FC87BF9BFF
(15 digit character ID provided by EPIRB manufacturer)

Activation Type CAT2
EPIRB Manufacturer ACR
Model No RLB-35
Date Confirmation Sent 2007-04-03 22:20:30.357
Date Decal Expires 2005-04-04 18:20:59.800
Date First Registered 2005-06-02 18:09:20.129
Date Last Updated 2007-04-04 18:20:59.800

Owner/Operator Information

Name DEVORE H.L.
(Last First Middle Initial)
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State NY Province
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E-mail HDEVORE@PRUDENTPUBLISHING.COM

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Home Work Cell Fax Other

Vessel Information

Usage
Commercial
Non-commercial
Government Military
Government Non-military

Type
Sail:
Power:
Number of Mast: 1
Fishing
Tug
Cargo
Tanker
Pleasure Craft
Other

Non-Power:
Life Boat
Life Raft
Other

Vessel Name HORANEE
Vessel Color WHITE
Survival Craft(s) on Vessel
Life Boat (Quantity) Life Raft 2 (Quantity)
Is your EPIRB equipped with a Simplified Voyage Data Recorder (SVDR)?
Yes
No

Radio Equipment (Check all that apply)
VHF MF HF SSB Other

Vessel Telephone Numbers
Inmarsat-C/M4 Number
Cellular/IridiumMMSI Number
Federal or State Registration Number
Length Overall (ft) 44 Capacity 13
(Crew and Passengers)
Homeport LARCHMONT YACHT CLUB
(Name/Dock)
LARCHMONT (City) NY (State)

Additional Data

Emergency Contact Information (Please indicate someone other than the owner)

Name of Primary 24 Hour Emergency Contact
CATHY DEVORE
Telephone
(914)8340880 Home Work Cell Fax Other
(914)6711111 Home Work Cell Fax Other
Home Work Cell Fax Other
Home Work Cell Fax Other

Name of Alternate 24 Hour Emergency Contact
CAROLYN MCMICHAEL
Telephone
(914)8341677 Home Work Cell Fax Other
Home Work Cell Fax Other
Home Work Cell Fax Other
Home Work Cell Fax Other

If you have any questions about this form or with EPIRB registration in general, please call 1-888-212-SAVE or 301-817-4015.
For information on the U.S. Search & Rescue Satellite-Aided Tracking system, please visit www.sarsat.noaa.gov
OMB 0648-0295 / exp. 31 January 2008

You can not edit your beacon information from this page.
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PLEASE REMEMBER TO REGISTER YOUR EPIRB.

AFRAS 2010 Awards Ceremony

Every year AFRAS recognizes a person or vessel that demonstrates selfless courage and heroism during a rescue of life at sea. The Gold award is given to an enlisted Coast Guard member, the Silver award is given to an Auxiliarist, and the Amver award is given to a vessel participating in Automated Merchant Vessel Reporting (Amver). The Gold and Silver medals are the highest search and rescue awards presented to a Coast Guard member by a civilian organization.

Gold Medal Award

AST1 SALVADOR CARIRE
and the Rescue of the
Crew of the ALISHA MARIE

While serving as a Rescue Swimmer at Coast Guard Air Station Atlantic City, New Jersey on 23-24 December 2009, Petty Officer Salvador Cadre distinguished himself and the Coast Guard through courageous effort and heroic life-saving action at sea. Just prior to midnight, the Coast Guard received an Emergency Position Indicating Radio Beacon (EPIRB) alert from the 38 foot fishing vessel *Alisha Marie* located approximately 36 nautical miles southeast of Barnegat Light, New Jersey. The ill-fated vessel had rolled over without warning after being hit by a rogue wave. The boat's life raft automatically inflated and the sole survivor of the incident, wearing only a T-shirt and shorts, swam out of the wreckage and climbed into the raft as the *Alisha Marie* slipped beneath the waves.

Soon after, cold and alone amongst 12ft waves, gale force wind, and 40 degree water, the mariner zipped up the raft's canopy and hoped against all odds for rescue. Meanwhile back in Atlantic City, Petty Officer Carire and his crew had just finished a two hour hoist training mission, and were preparing to rest for the evening when the call to launch came. Since Petty Officer Carire was the Rescue Swimmer on the second ready helicopter, he assisted the first alert crew in preparing the aircraft and flight gear, and with mission planning. Near the end of the first aircrew's search, they discovered a debris field and requested that the second helicopter launch to continue as they returned to base for fuel.

Springing into action, Petty Officer Carire launched into the dark, stormy night. Arriving on scene amidst decreased visibility, high wind, and confused white-capped seas, the crew began to search for survivors. Soon after commencing the search, the aircrew located the floating EPIRB and vectored a boat to its location while they continued the frantic search for persons or rafts in the water. As his helicopter neared the limit of its fuel endurance, Petty Officer Carire spotted, in the distance, an extremely faint flashing glow in the water. As he vectored the pilots toward the light, it became apparent that the faint flashing was originating from a strobe, 4ft below the surface and attached to an overturned raft.

Petty Officer Carire quickly deployed from the helicopter to the frigid water. After detaching from the hoist hook he swam 50 yards to the raft, occasionally losing sight of it as he slowly closed the distance. Once at the raft, he realized that he could not

access the inside while it was inverted.' He first attempted to right the raft by standing atop it and flipping it as he was trained - a challenging task for a six man raft in the best of conditions, but made especially so with the wind, high sea state, and the low center of gravity of the partially flooded raft. Petty Officer Carire was washed overboard by a crashing wave during the effort but swam back and climbed aboard again. Considering the use of his knife to cut open the raft from below, he first began yelling and banging on the raft trying to elicit a response from anyone who might be inside. To his amazement, he felt something bump his leg through the bottom of the raft. Petty Officer Carire was invigorated with a renewed sense of energy, and now suspected that someone might actually be alive inside the overturned raft. He stood up and tried one last time to flip the raft, just barely succeeding before being submerged under a large wave. Petty Officer Carire now struggled to unzip the hefty canopy, but the zipper was lodged. Wasting no more time, he used his knife to gain access to the inside of the raft. There he discovered a barely conscious, hypothermic man.

Petty Officer Carire signaled the helicopter to return for pick-up and deftly maneuvered the 280lb fisherman out of the raft and into the rescue basket, despite the survivor's inability to assist him due to late stage hypothermia. During this time, Petty Officer Carire asked the mostly incoherent victim if there were any other survivors; the fisherman said there were no others.

Petty Officer Carire, now experiencing the early stages of hypothermia himself, stayed in the rough waters until the aircrew recovered the mariner, and return the hoist hook to the water.

Once aboard the aircraft and enroute the beach, Petty Officer Carire knew his work was not finished. The nearest hospital was a 40 minute flight away. Utilizing his emergency medical training, he placed the fisherman into a hypothermic warming bag and kept him conscious. Petty Officer Carire continued to ask the mariner about his personal information and other potential survivors. This kept the fisherman engaged and awake, and he began to remember that there were two other people on board the stricken vessel. Although it turned out that these other victims perished in the sinking, Petty Officer Carire's interaction with the victim ascertained that additional searches were required. It was later learned that the survivor had certainly been near the edge of human endurance. Any further delay in the water or even imperfect treatment for hypothermia in the aircraft would have likely claimed the fisherman's life. Petty Officer Carire's actions were both courageous and heroic, and bring tremendous credit to himself, the Coast Guard, and all the professionals who stand watch on and over the sea.

AFRAS 2010 Awards Ceremony

Silver Medal Award

CGAUX crew of AMYJULIE and the RESCUE of the SWAMPED SPORT FISHER CREW

On Wednesday, August 26, 2009 CGAUS crew of AMYJULIE, Coxswain Paul Sadeck and crew members Leo Lake and Robert M. Joseph and trainee Rodney Thomas on board the AMYJULIE departed Flotilla 65's docks at 8:00 a.m. to head southwest down Buzzards Bay toward South Dartmouth.

The wind soon began gusting but seas were still around 2 feet with an occasional 3 footer as the patrol continued heading southwest toward their next destination, "The Sandspit". When they arrived the waves were rolling pretty well over "The Sandspit". The patrol continued toward Salter's Point to check that area and then made their way back to Dumpling Rocks and there tucked in behind the rocks to get in the lee and away from the rolling waves. They then proceeded northerly along the east shore of South Dartmouth toward Ricketson's Point and then into Clarks Cove in New Bedford. They proceeded to the northern end of the cove then circled back out along the New Bedford beaches. The wind by this time had strengthened to about 20 knots.

The patrol continued across Clark's Cove and around the Ricketson's Point breakwater into Padanaram Harbor where they patrolled the harbor as far north as the road bridge and headed back out. Clearing Ricketson's Point, the plan was to continue to Wilber's Point at the southern end of Fairhaven. The wind was now blowing around 25 knots but the wind and the four foot rolling beam-sea was readily handled by the boat.

Almost immediately crewmembers Leo Lake and Bob Joseph observed a small boat and people waving. Turning northeast the patrol pulled alongside a white 17 foot center console which was submerged to the gunnels. The two men aboard crouched in waist deep in water with life jackets around their necks which had not been properly tied. The captain's life jacket was actually on backwards. One boater spoke Spanish and the captain spoke broken English but Rodney Thomas, a trainee on our boat, spoke to them in Spanish. The time was 12:00 p.m.

The captain gestured to the south, saying another person was in the water. The crew Auxiliary immediately called Coast Guard Station Menemsha and advised the station of the situation and position and asked for assistance and to contact the New Bedford police boat and the Fairhaven Harbor Master. The station asked the Auxiliary patrol to attempt to locate the person in the water but after quick search of the immediate area they were unable to immediately locate the missing boater. After the Auxiliarists advised the station of the failed search, they were directed to remove the boaters from the partially submerged boat and were informed that the Coast Guard Station's boat was enroute but due to sea conditions it would take about 45 minutes.

On the first attempt to remove the men from their vessel they appeared too afraid to leave but after talking them through the process of properly securing their lifejackets a second approach was attempted. Suddenly a large wave appeared behind the small boat, nearly rolling it over. Both men they decided they wanted to get off of the submerged boat as quickly as possible. On the second attempt the vessel owner caught a thrown life ring, jumped into the water and was pulled to the patrol vessel. As the Auxiliarists made a third approach the second man jumped into the water where a well thrown the thrown life ring landed next to him and he was pulled aboard. Neither man was injured.

The captain reported that a third man had jumped or fallen off the boat "near a red buoy" when they had been swamped nearly an hour before. The closest red buoy, Bents Ledge, was nearly 1.25 nautical miles southwest - directly into the oncoming waves. The AMYJULIE headed for the buoy with the four Auxiliarists hoping to see the orange life jacket the rescued men said that their friend had donned. The first orange object spotted turned out to be an orange lobster buoy but the patrol continued their southwest route for several more minutes where Bob Joseph and Leo Lake spotted orange dead ahead.

This time it was the third man. Appearing near exhaustion, he had his left arm around a child's orange life jacket with a white fish cooler cushion was tucked under his right arm. Another accurate toss of the life ring landed right over an upraised arm. The Auxiliary crew continued to encourage him to him to hold on they pulled him to safety on the boat. Conscious but lethargic and shivering, the rescued boater was holding his chest as if in pain. It was 12:21 p.m.

CG Station Menemsha was advised that the Auxiliary patrol had the third party and the complaints of chest pain and arranged to have the Fairhaven Fire Department Ambulance meet the Auxiliary boat at the ramp adjacent to Flotilla 65. He was tended by the crew as the patrol headed for New Bedford harbor.

Fairhaven ambulance and fire department and police department were waiting and the injured man was transported to St. Luke's Hospital in New Bedford for treatment. The two other men refused medical treatment but were brought to the Coast Guard Auxiliary's Fairhaven headquarters where they contacted their families.

AFRAS 2010 Awards Ceremony

AMVER Award

THE ASSOCIATION FOR RESCUE AT SEA (AFRAS) AMVER AWARD

This award was inaugurated in 1996 by this non-profit, charitable-status foundation devoted to supporting services concerned with saving lives at sea, and promoting the importance of safety in concert with other maritime and aviation organizations. Selection criteria for this award include: seamanship; shiphandling; degree of effort involved in the rescue; and the ship(s)' initiative in responding. The elegant award plaque is presented by AFRAS at its annual Coast Guard Award Ceremony held in the United States Capitol Building in Washington, D.C. in September.

AFRAS presented its Amver plaque to the captain and crew of M/V ANDES, a Greek flagged tanker managed by the Tsakos Group for the rescue of seven Ecuadorian fishermen on 5 June, 2009. En route to Esmeraldas to load product, the captain of ANDES was notified by the US Coast Guard through the Amver system of an Ecuadorian fishing vessel that had sunk 170

miles off the Columbia Ecuador coast. A Coast Guard aircraft dropped liferafts and survival equipment to the seven fishermen in the water and circled over the area to direct the tanker to the location. The master of the ANDES quickly mustered the crew and turned his ship in the direction of the sinking fishing boat. Within two hours of being notified, crewmen on the Greek tanker observed flashing lights near the distress position. The master expertly maneuvered the tanker alongside the life rafts and the crew began rescue operations. Due to the elderly crew in the lifeboats the master readied a rescue boat in case they were unable to climb the high freeboard. But with the help of ANDES crewmen, all survivors were able to make the transfer between the life rafts and tanker. The Automated Mutual Assistance Vessel Rescue System (Amver), sponsored by the United States Coast Guard, is a unique, computer-based, and voluntary global ship reporting system used worldwide by search and rescue authorities to arrange for assistance to persons in distress at sea. AFRAS commends the expert actions of the captain and crew of ANDES for their role in this dramatic rescue.

AOTOS Awards Ceremony

BM2 RYAN DEWITT
and the RESCUE of the
Overturned Vessel

On 24 May 2009, the crew of CG 25563 responded to an overturned vessel on Lake George, Fl during Memorial Day weekend while there were over 300 vessels on the lake at the southern end of the St. Johns River, many tied together enjoying the calm seas of a holiday weekend. Without warning, a sudden and severe storm developed with wind gusts over fifty knots and a sea state of three and four feet chop. Within minutes, a detachment of Coast Guard Station Mayport personnel and local agencies responded to chaotic reports of multiple capsized boats with at least 21 people in the water. The paragraph below describes the events of BM2 Dewitt on CG 25563.

Because the storm arrived with little warning, the coxswain of CG 25563 decided to ride the storm out on the lake. During the heaviest winds, the crew responded to a MAYDAY call and made best possible speed approximately 100 yards away and observed a man sitting on the stern of an overturned vessel pleading for help. He was yelling that his family was trapped underneath and he could not rescue them. Without hesitation, BM2 Dewitt began removing his LE gear and turned to the coxswain to request permission to enter the water. BM1 Pickler agreed and SN Carrasquillo tied a heaving line around his waist and BM2 Dewitt jumped into the turbulent water. BM2 Dewitt swam to the man and helped put a life jacket on him and directed him to a nearby Good Samaritan boat. BM2 Dewitt reported back to the Coxswain that he could screams for help under the boat. At that time Mr. Mike Dickens (Towboat US) and MK3 Rogers entered the water to assist BM2 Dewitt. After the first failed attempt to right the vessel, BM2 Dewitt, MK3 Rogers, and Mr. Dickens were able secure the line for 25563 to right the vessel. The coxswain took the vessel under tow and BM2 and others were able to reach the victims. Mr. Dickens climbed onto the vessel and began passing victims to BM2 Dewitt and MK3 Rogers. BM2 Dewitt cared for two conscious victims, a mother and a young girl approximately seven years old. BM2 Dewitt managed to keep the two females upright above water for an extended time while trying to hold on to the vessel despite the sea conditions and being towed at minimum speed necessary to prevent the flooded boat from capsizing again. Finally, a Good Samaritan assisted BM2 Dewitt recover the victims. BM2 Dewitt then pulled another unconscious female out of the water onto the boat and began CPR. The Good Samaritan beached his boat near the Juniper Hunt Club. The crew took the young female ashore, BM2 Dewitt continued CPR for over thirty minutes until relived by other Coast Guard crews and EMS.

The weather was so intense during this entire evolution, a JSO helicopter stayed grounded due to the weather. BM2 Dewitt's heroic actions lead to the rescue of six people and ensured the best possibility for the two victims who unfortunately, perished later.

BM2 Dewitt's courage, judgment, and quick actions were remarkable and should be commended. The local commercial salvage representative, a Captain in the Orange County Fire & Rescue department and also a retired US Navy Diver with 30 years of SAR experience, stated that BM2 Dewitt never wavered in his actions despite the conditions or danger to himself.

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