Analysis of Auxiliary Surface Mishaps
Summary

In the summer of 2013, the Surface Safety Branch of the Surface Operations Division, National Response Directorate, requested that all USCG Auxiliary Districts submit their Auxiliary surface mishap reports to this Division for analysis. As a result, a total of 44 mishap reports were received from 10 of 16 Auxiliary Districts. Data was received that spanned years 2010, 2011, 2012, and a portion of 2013.

Because data was received from only 62.5% of the Districts, it is quite possible that the actual number of mishaps throughout the country is more than those reported to us. This appears likely because, on average, only 3 to 4 mishaps were reported per District covering a 3.5-year period. Some Districts reported up to 7 mishaps, others reported 2 or 3, while others reported no mishaps for the three plus year period.

Although the data received are not as comprehensive as expected, the sampling of the 3.5-year period is enough to glean some "lessons learned". Accordingly, the Surface Operations Division conducted an analysis of the data received. The analysis yielded some useful information about the state of surface operations safety in the Auxiliary to date. We have drawn some general conclusions and made some recommendations, based on this data sampling. More specific findings, such as year-to-year and District-to-District comparisons are impossible until more data have been collected. We hope to issue more specific and targeted reports in the future as this safety initiative gathers momentum and national mishap reporting improves.

Findings:

The following surface mishap patterns and trends are based on data received since July 2013, and include reports from 2010, 2011, 2012 and 2013.

1. 51 percent of all reported mishaps occurred either before or after underway patrol time. In other words, less than half of these mishaps occurred while actually underway. The non-underway mishaps include trailering problems, and problems at the marina while crews were preparing to get underway or when securing after underway portion of the patrol. These problems include those caused by loading and un-loading of equipment, and slips and falls at docks, ramps, etc.
2. Approximately 16 percent of all reported mishaps reported were directly caused by line handling problems at the dock or underway during towing evolutions or training.
3. Less that ½ of 1 percent of all reported mishaps involved mechanical failures of equipment; one engine failed and a length of line failed in another. All of the other mishaps, 99.5%, were caused by some degree of human failure to follow established procedure, utilize best practices, or implement one or more TCT elements.
4. 2 percent of all reported mishaps resulted in injury. Reported injuries were not life threatening, but included shoulder and arm strains or sprains caused by falls, fingers caught or burned by lines, and hand and wrist injuries caused by line handling errors. There were a few broken bones in the extremities. One crew person damaged a previous knee replacement. No hospital admissions beyond emergency room treatment

were reported. We must acknowledge the possibility that reporting may be inaccurate for non-injury or damage mishaps since there are no claims for medical treatment or equipment repairs to drive mishap reporting.

5. 20 percent of all reports received involved property damage.
6. 14 percent of all reported mishaps occurred while trailering or launching/retrieving a vessel.
7. 37 percent of all reported mishaps involved slips and falls at the dock prior to getting underway or at the conclusion of the underway portion of the patrol.
8. Property damage reported came to $36,485 over 3.5 reporting years.

Conclusions/Recommendations

1. Mechanical/Equipment Failure Versus Human Caused Mishaps:

The findings reported above indicate that the vast majority of mishaps involve human error, lapses or failures in following appropriate procedures and best practices. Only a few incidents involved mechanical failures, seaworthiness or equipment/line failures. The human caused mishaps include lapses and failures that, although not always thought to be "serious", still represent issues that need to be addressed.

Recommendations:

It is clear we must continue to emphasize the pre-underway checklist of equipment and facility mechanics/seaworthiness. But it is also clear that reported mishaps due to mechanical and/or equipment failures are relatively rare. We must improve human performance. To do this, we must be proficient in basic seamanship skills including line handling, pilotage, watch standing, member balance/dexterity techniques, etc., in order to reduce dockside and underway mishaps in the future. Although our training and qualification standards currently address most of these elements, based on the mishap data, it is possible that more emphasis placed on a few specific areas of seamanship and routine dockside practices may help reduce mishaps and injuries.

Some skills, such as marlinspike, are explained thoroughly in our BCTM and are comprehensively addressed in the qualification guide. Other skills, such as how to load or unload equipment safely, proper line handling techniques, how to safely launch from docks or beaches, or how to trailer/de-trailer, are not consistently addressed or taught. Mentors and QEs are encouraged to cover these fundamental skills.

Although crewmembers may be trained to be alert for, say, a chafed towline, we cannot assume that they know how to safely correct such a condition unless they are taught the right way to do so. Likewise, watch standing techniques, such as use of hand holds, balancing the vessel by crew positioning, ensuring that all crew members are aware of what their shipmates are doing, etc., should be covered during training.

2. Dockside Mishaps

Crews are likely to be most vigilant and aware of Team Coordination Training and ORM while underway. It is natural to be at a heightened state of awareness while actually underway on the water, where threats seem to present themselves more often. However, the high percentage of reported mishaps that occurred at the dock, launch ramp or beach, remind us that we are exposed to hazards before getting underway. The focus on getting underway can contribute to a lack of attention to dockside hazards. We must guard against complacency caused by the assumption that the patrol really starts after getting underway. Shortcuts in preparation and mission analysis, especially when beginning a "routine" patrol with crewmembers we are "comfortable" with, may exacerbate this. Crew fatigue and complacency, may be factors in post underway mishaps, as well.

Recommendations:

We recommend that extra attention be given to preventing "pre" and "post" underway mishaps in training sessions, best practices, workshops, re-qualification check rides, etc. Specific skills related to dockside, beach and marina tasks, such as loading and unloading, crew balance, using hand holds while boarding and exiting vessels, lifting/balance techniques on vessels, and specific line handling techniques, should be incorporated into initial and re-qualification dockside & underway check ride evolutions, for both crew and coxswains. All Auxiliary boaters should refresh their knowledge and practice these basic seamanship skills.

Training must continue to reinforce the concept that the patrol begins upon arrival at the marina and ends upon departure from the marina. Underway time is no more important than time spent prepping and securing the patrol. Safety at all times is our highest priority.

3. Mishap Reporting Issues

The Surface Operations Division has a responsibility to ensure that our surface crews are well equipped and well trained to perform their mission without injury or mishap. The Surface Operations Division has initiated a comprehensive effort to encourage individual crewmembers, coxswains, Flotilla leadership, Divisional and District leaders and staff officers, to join in our effort to obtain comprehensive, reliable and valid data on all mishaps. Analysis of accurate mishap information is central to reducing mishaps. The effort to collect and analyze these data includes the following:

- The Surface Operations Division has written articles to be published in the "Responder" to explain the new mishap reporting initiative and why it is important to all surface operational personnel.
- The Response Directorate has included slides on the topic in the 2014 TCT Refresher workshop.
- The Response Directorate has included slides on the topic in the 2014 Operational Workshop.
- The Branch Chief for Surface Safety will maintain close and continuous communication with all District DSOs and OTOs so that they will understand the scope and importance of surface safety issues and our need to acquire accurate nationwide mishap data.