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Boat Crew Seamanship Manual

The new Boat Crew Seamanship Manual, COMDTINST M16114.5B is available at ANSC. Each Flotilla is entitled to two(2) copies for their library and is to be available for boat crew training. This manual will NOT, I repeat will NOT be automatically sent. Each Flotilla will have to have their Materials Officer order their copies. There is a possibility that later on this year you may be able to order two more. Once again I remind all that this manual is available for review and down-loading on the Coast Guard Auxiliary Web Page, www.cgaux.org. You can also get to it on www.uscg.mil/hq/g-o/cgaux.htm, then look in the "Publications" section. The Navigation Rules and Chart 1 is also available there. This can all be downloaded, however bear in mind that this is a very lengthy manual, some 1200 or so pages and could be quite costly to print from your PC. It is suggested that you view the manual and then only download those sections you would like to have at this time.

Auxiliary Boat Crew Training & Qualification Guides.

Three new Boat Crew Program publications have been signed and published. They are the: Auxiliary Training Manual, COMDTINST M16794.51, ANSC #2018; Auxiliary Boat Crew Qualification Guide, Volume I: Crew Member, COMDTINST M16794.52, ANSC #2018A; Auxiliary Boat Crew Qualification Guide, Volume II: Coxswain, COMDTINST M16794.53, ANSC #2018B.

These publications will replace the Auxiliary Boat Crew Training and Qualification Guide - Crewman and Coxswain, COMDTINST M16798.28. The crew and coxswain qualification tasks listed in Chapter 8 of the old

manual (M16798.28) may be used until the end of 2001. If you are in the middle of the crew and coxswain qualification syllabus under the old manual, you may finish your qualification under that process. While members may use the old tasks, the policies contained in the new Training Manual for qualification, certification and currency maintenance are now in effect. This revision to our training documentation aligns the Auxiliary boat crew program with the current *best practices* in the new Boat Crew Seamanship Manual. The qualification format and process will be recognized by your active duty counterparts as being nearly identical to theirs as possible, while meeting the unique needs of the Auxiliary. The dockside oral exam and underway check-ride have been part of the active duty's process for many years and has proven to be the best method for ensuring that members who earn their certification are safe and effective. This time tested method is now part of the Auxiliary's qualification process and will serve us equally as well.

Please keep in mind your sense of purpose in producing qualified coxswains and crew members. The training documents are the means, not the ends. Please read and understand them, but also keep them in perspective as tools to use to help you complete a bigger job. Our goal is to have safe, competent, positively motivated Auxiliary members on the water helping your fellow boaters. You operate on hundreds of different waterways in probably thousands of different boats and one set of training documents simply can't anticipate all of your needs. Please follow the standards to the best of your ability, use sound judgement and keep safety as the number one thought. If you have a better way of getting the job done, let us know, send your ideas to the Operations Department so that we may

evaluate them and consider them for future changes.

The Training Manual and Qualification Guides are available on the Chief Director's web site at <http://www.uscg.mil/g-o/cgaux/default.htm> under the "Publications" button. They are also available at ANSC.

The PWC Qualification Guide, COMDTINST M16794.54, ANSC #2018C should be available soon.

Lee Crossman, DVC-OS

GPS UPDATE

Provisional Policy Statement for Using GPS and DGPS

United States Power Squadrons/National Ocean Service

Cooperative Charting Program

June 8, 2000

GPS Background

The Global Positioning System (GPS) is a dual-use system providing highly accurate positioning and timing data for both military and civil users. GPS is a 24-satellite constellation that transmits timing and local information to users all over the world. Developed by the Department of Defense as a military navigation system, GPS is used for civil, commercial and scientific applications throughout the globe. Differential GPS (DGPS) is a technique where GPS signals at a reference station are compared to idealized signals based on a known reference station position. Based on the discrepancy, GPS signal correctors are broadcast and used by suitably equipped GPS receivers to remove the common error sources. DGPS accuracy depends on many factors, including distance from the reference station and provides 3 to 5 meter positioning accuracy.

Discontinuation of Selective Availability

Selective Availability (SA) was a technique used to reduce the accuracy of un-augmented, single-receiver GPS measurements. This was accomplished by altering (or "dithering") the GPS satellite clock signals, and by modifying

orbital elements of the broadcast navigation message. These alterations were done in a coded fashion, and could be removed by authorized users. This alteration causes horizontal position errors on the order of 100 meters and varied in a manner that prevented averaging of position data.

President Clinton decided to discontinue Selective Availability at midnight UTC on May 1, 2000. Horizontal position accuracy is expected to improve to about 10 to 20 meters. The accuracy of GPS will vary, depending on the receiver in use, the location on the earth, the level of solar disturbance of the ionosphere, and other factors.

GPS Accuracy

There are two categories of GPS positioning required in Cooperative Charting activities: 1) static positioning and 2) dynamic positioning. Static positions are recorded alongside a fixed point, whereby the GPS receiver remains stationary. Averaging techniques over a short period of time ** can be used to enhance position accuracy and prevent blunders. Dynamic positions are required when conducting channel surveys. In this case, the vessel (and receiver) are constantly moving. Therefore, redundant observations are not possible in a dynamic mode.

While the accuracy of DGPS has been well-documented, the accuracy of non-differential GPS with SA turned off, is still under study. Tests conducted by recording static positions over a known geodetic point suggest that GPS with no SA may be as accurate as 6 meters (95 percent level). Until a thorough analysis is complete, NOS' nautical charting program is taking a conservative approach and assuming the accuracy in a static mode is on the order of 20 meters. Since SA has been turned off, NOS has yet to conduct tests with non-differential GPS in a dynamic mode. NOS does have plans to conduct these tests aboard the Bay Hydrographer in the near future. Positions collected from commercial off the shelf receivers will be compared against high accuracy positions recorded simultaneously from Real Time Kinematic survey receivers. The results should provide an accurate assessment of non-differential GPS in a dynamic mode.

**Averaging techniques over a short period of time: Record the GPS readings every 30 seconds for 5 minutes.

Proposed Changes in NOS Policy

Effective immediately, NOS will accept non-differential GPS positions recorded in a static mode. These positions must be recorded in accordance with the attached procedures for recording GPS positions. NOS is in the process of moving toward accepting these positions for charting without attaching the label "Position Approximate"(PA).

Until further studies on dynamic GPS are complete, NOS will continue to accept only DGPS positioning for channel surveys.

Final Guidelines

NOS is interested in hearing USPS comments on this provisional document. Comments should

For Better Boating Safety

THE WHAT IF GAME

Taking a boat out on a Bay, or a Lake, or a river, can be very enjoyable and relaxing. However when doing so the person acting as skipper should be aware of the potential hazards he may encounter. The skipper is not only responsible for his or her own safety and the safety of the boat, the skipper is also responsible for the safety of any crew, passengers, or guests on board. Conditions on a boat can change quickly and the change may require a rapid response by the skipper in order to avoid a disaster. Playing the What If game before starting out on a cruise can prepare the skipper to respond quickly to any such changes. The What If game is just a mental exercise posing hypothetical situations and questions on how to respond to them.

There can be any number of What If situations a skipper may consider.

- What If a fire breaks out in the engine space, or the galley, or in some other compartment? Are fire extinguishers fully charged and readily available?

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GPS Web Links

- Trimble tutorial
http://www.trimble.com/gps/fsections/aa_f0.htm
- Garmin 12XL Accuracy Report - Post SA
<http://sparkie.nrri.umn.edu/saoff/intro.html>
- Sam Wormley's GPS resources
<http://www.cnde.iastate.edu/staff/swormley/gps/status.html>
- GPS Error Distribution - Garmin 12XL
<http://users.erols.com/dlwilson/nosa.htm>

James Duncan DCV-ON

- What If someone falls overboard? What procedure and equipment will be used to get the person back on board. Is the equipment on board and ready for use? Could that person be over weight and / or unable to help him or her self?
- What If there is a medical emergency on board? Is there an adequate first aid kit on board? Who should be called on the VHF radio or cell phone?
- What If your boat is sinking as the result of a collision or other mishap? Are there sufficient Life preservers for everyone on board and are they readily available. You would not want to be pulling them out of lockers under the bunks while the water is pouring over your gunwales. Are there distress signaling devices such as day / night flares readily available and are they in good condition?
- What If you are caught in a sudden violent storm? What course of action would you take?

- What If the engine develops a problem?
Are there tools and spare parts on board?

Obviously, the What If game can be quite extensive and any prudent skipper should play it before he or she casts off his mooring lines.

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DISTRIBUTION: Direct E-Mail-NATIONAL BOARD, DIRAUX (OTO), DSO-AN/AV/CM/OP
By DIRAUX to VCO, RCO, DCP, FC
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