



United States Coast Guard Auxiliary *Navigation Systems* **Chart Updating Program**

The Auxiliary/NOAA Chart Updating program is designed to encourage the updating of every NOAA Chart by any Auxiliarist at any time. There are no restrictions so any member can make Chart Updating reports for any NOAA chart. All you need is some formal training. *“The Auxiliary may also help the National Oceanic and Atmospheric Administration (NOAA) and the United States Army Corps of Engineers (USACE) in updating nautical charts and publications.”* (Excerpted from Chapter 2, Section B3 of the Auxiliary Manual.) A Memorandum of Understanding exists between NOAA and the U.S. Coast Guard Auxiliary.

1. The focus of the Auxiliary Chart Updating program is on prevention, accuracy, credibility, and professionalism, and is directed toward building the competence level of every Auxiliarist in the eyes of NOAA. There are specific guidelines for taking fixes and depths that require pre-underway validation of all electronic equipment that is used to perform measurements and for reporting quality control evidence in support of each on-scene observation and instrument reading. Also required are explanations of the technique(s) used to acquire any reported data. Observers are directed to define each chart update task, list their on-scene observations, develop a conclusion from the collected evidence, and make a final recommendation to NOAA. A fresh scientific approach is encouraged. Evidence can take the form of a fix taken with a GPS set using WAAS, depths corrected to the charted vertical datum, physical measurements, photographs, drawings, marked up chartlets, and printouts from the Internet. Any official document that supports your contention is great supporting evidence. In effect, you are pleading your case to NOAA for the acceptance of your premise and evidence illustrated on your chart update report.

2. The NOAA reward system: NOAA has agreed to supply replacement Nautical Charts. The only stipulation is that the Auxiliarist submit a Chart Update report that is usable to NOAA, and the report must have an attached chartlet. Since each DSO-NS is requested to perform a quality control check on all chart update reports before they are forwarded to NOAA, any sub-grade reports will be screened by the DSO-NS, returned to the chart updater for corrections and not sent to NOAA. Reports rejected by NOAA will be sent to the DVC-MN for review and corrective action. Think of this process as a training and learning opportunity rather than a punitive act. Hopefully, it will provide insight into problems on the Auxiliary’s part and the elimination of the reporting of items in which NOAA is not interested. Our goal is high quality useful reports for NOAA,

3. Chart Update operating and training tools are provided. Below is a list of the chart updating tools that are available for download to your home PC from the Navigation Systems CU-Chart Update Web Page.

■ **NS-CU01 Chart Updating Program Hand out** Print out and use this handout for promoting the Auxiliary’s Chart Updating Program with your volunteering members.

■ **NS-CU02 Chart Update Training Guide** This guide is full of illustrations and photos of the various chartable items that are found on a nautical chart and have the potential for review and update. Each listing has a short explanation about the type of problem that can occur and the specific things to look for that commonly go wrong with a charted object. For newer members, there are

tutorials on Nautical Charts and the use of a GPS Set. Also, there are specific guidelines for pre-underway checks, taking depths, fixes, photos, planning a patrol, and much more.

■ **NS-CU03 Chart Update Form** This form is directed at Chart Updating and Coast Pilot text correcting. The LAT/LONG fields and depth fields have been expanded to include the new quality control data requirements associated with these critical observations. Space is provided for a task statement, evidence, comments and observations, and for a final recommendation to NOAA based on the evidence presented. Also, there is a place for ordering a NOAA Nautical Chart. However, there are strings attached to receiving these free charts. Each field has a pop-up instruction block or a drop-down menu to assist you in the preparation of your report.

■ **NS-CU04 Chart Update Worksheet** This worksheet is designed for managing the planning and collection of on-scene observations when multi-tasking chart updating activity is necessary, such as for marina surveys or composite sections of shoreline. Prepare this worksheet on-line to enhance the professionalism of your final CU report. This report is always attached to a *NS-CU03 Chart Update Form* when forwarding your final report to NOAA.

■ **NS-CU05 Coast Pilot Text Correction Worksheet** Use this worksheet to organize information when reporting corrections and updates to the Coast Pilot. This worksheet helps pinpoint the page and paragraph of the change for NOAA. The existing and new Coast Pilot copy are an essential part of the report presentation. Always prepare this worksheet by computer to enhance the professionalism of your report. This report is always sent to NOAA attached to the *NS-CU03-Chart Updating Form*.

■ **NS-CU06 Latitude-Longitude Minutes To Seconds Conversion Sheet** Use this handout to convert from decimal minutes to seconds so that your LAT/LON expressions are formatted correctly.

■ **NS-CU07 Vertical and Horizontal Error Calculator** This is a unique tool for making special calculations that help support your recommendations and improve NOAA's confidence level in the Auxiliary reporting process. Instructions for the use of this document are provided on the form. The following calculations can be performed with this unique tool.

- ✓ **Location Calculator** – Use to determine the distance and bearing between two fixes. Enter the assigned fix and the observed fix for an object and you will get the distance in feet and nautical miles between the fixes plus the direction in True from the assigned fix of the object to the observed fix. This is a great tool for calculating the distance a buoy may off station. The calculation includes a correction for a floating aid's watch circle.
- ✓ **3. Depth Check Calculator** - Depth is adjusted for the location of the transducer on the vessel and for the height of tide. The difference from charted depth to corrected depth can also be calculated.
- ✓ **4. Clearance Gauge and Vertical Clearance Calculator** – System computes the projected clearance using the height of tide and the bridge's vertical clearance. It also compares the result to any measured height input.
- ✓ **5. Estimating the Height of an Object from a known distance** - Using the distance to the object and the angle from the base at MHW to the top of the structure, the system estimates the height of the object.
- ✓ **6. Chartability of an Object** – Using the length of the object or structure and the scale of the chart, the system indicates whether or not an object is chartable on a NOAA Nautical Chart.

■ **NS-CU08 NOAA CU Program Review Summary** This PowerPoint presentation provides a quick overview of NOAA's Chart Updating Program. Review in conjunction with the “*NS-CU02-Chart Update Training Guide.*” Ask your NS Staff Officers to schedule CU workshops in your Division.

■ **NS-CU09 Chart Updating Training Presentation** – This PowerPoint presentation further enhances the chart updating learning experience when reviewed in conjunction with the “*NS-CU02 Chart Updating Study Guide.*” This presentation is designed for use as the basis for Chart Updating training workshops. Ask your NS Staff Officers to schedule CU workshops in your Division.

4 If the Chart Updating Program interests you, talk to your FSO-NS, SO-NS or ADSO. Each Division is encouraged to form a *Chart Updating Team*, whose goal is to identify Chart Updating opportunities throughout their AOR and to develop plans to perform the necessary observations and prepare the appropriate reports for submission to NOAA.

You could be contributing quality reports to NOAA in the time that it takes you to familiarize yourself with the programs forms, worksheets and guidelines.

Chart Updating is a year-round Auxiliary activity and you don't need a boat to participate. New members are encouraged to join their Division Chart Updating Teams. All that is needed is your skill, knowledge, and the desire to make a contribution. Plan to attend a CU Workshop soon.

If every Auxiliary Operational Facility included one Chart Update task on each of their scheduled patrols this year, we would make a large dent in the list of needed chart corrections to your area charts. There may be over 3 million Chart Updating opportunities out there at this moment.

There are multiple chart updating opportunities in the picture shown to the right. However, you won't be able to find them without the proper CU training. Plan to attend a Chart Updating Workshop soon.

