



COMDTINST 16500.20
JAN 22 1993

COMMANDANT INSTRUCTION 16500.20

Subj: Aids to Navigation Positioning Datums

Ref: (a) Aids to Navigation Manual - Positioning, COMDTINST M16500.1B
(b) Aids to Navigation Manual - Administration, COMDTINST M16500.7
(c) COMDTNOTE 16500 of 14 May 92

1. **PURPOSE.** This instruction is directed towards all aids to navigation servicing units. The intent of this instruction is to reiterate the importance of knowing what horizontal geodetic reference datum is being used when either positioning or reporting the positions of aids to navigation.
2. **DIRECTIVES AFFECTED.** These changes will be reflected in an upcoming revision to references (a) and (b).
3. **DISCUSSION.**
 - a The current positioning software used in the Coast Guard is CAP II version 6. Many of the positions in the aid and object files used by CAP II are not referenced to the North American Datum of 1983 (NAD 83). When positioning an aid to navigation, units must ensure that the assigned position of the aid (stored in the .aid file) and the positions of the objects used to locate that aid (stored in the .obj file) are referenced to the same datum.
 - b In anticipation of the release of the Laptop Automated Aid Positioning System (LAAPS), NAD 83 LAAPS aid/object files were distributed to the districts in the Spring

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of 1992. These files were converted from CAP II aid and object files previously sent by the districts to the Research and Development Center. To position an aid to navigation with LAAPS using the differential Global Positioning System (DGPS), it is necessary that the aid position be referenced to NAD 83.

- c During this transition stage from the older datums to NAD 83, it is imperative that the districts and units ensure that the datums not be confused when positioning aids to navigation.
- d With the exception of the Ninth and Fourteenth Districts, many of the aid positions stored in the district's Aids to Navigation Information System (ATONIS) have been transformed from an older datum to the North American Datum of 1983 (NAD 83). Aid positions referenced to a datum that could not accurately be converted to the NAD 83 datum were documented in letters back to the districts. Plans to convert the remaining aid positions are now being discussed.
- e The majority (approximately 89%) of the nautical charts published by the National Oceanic and Atmospheric Administration (NOAA)/National Ocean Survey (NOS) are referenced to NAD 83. Please note that reference (b) provides direction that the Local Notice to Mariners list geographic positions in the same datum as the current edition of the nautical chart on which that particular correction appears.
- f North American Datum Conversion (NADCON) Software was distributed to the districts at the Spring 1992 LAAPS Conference. Districts may have already received another copy of the software through the procedures outlined in reference (c). The NADCON software will help the district perform position datum transformations between NAD 27 and NAD 83. The current version of NADCON is 2.0.
- g Reference (b) also contains additional information on the use and implementation of NAD 83.

4. **PROCEDURES.**

- a Districts should notify Commandant (G-NSR) if CAP II positions referenced to datums other than NAD 27 were forwarded to the Research and Development Center for conversion to NAD 83. These files probably would have been sent in January or February of 1992.

- b To minimize the potential for confusion, the horizontal datum should be noted when recording a position for an aid to navigation.
5. **ACTION**. Area and district commanders, commanders of maintenance and logistics commands, unit commanding officers and Commander, CG Activities Europe shall comply with the procedures of this instruction.

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and Waterway Services