

Navigation Equipment and PTP will meet on Wednesday, June 9, 1999, from 9:30 a.m. to 12 noon. These meetings may close early if all business is finished. Written material and requests to make oral presentations should reach the Coast Guard on or before June 7, 1999. Requests to have a copy of your material distributed to each member of the Council should reach the Coast Guard on or before June 4, 1999.

**ADDRESSES:** NAVSAC will meet in Leamy Hall at the U.S. Coast Guard Academy, 15 Mohegan Avenue, New London, CT 06320-4195. Committee meetings will be held at the same location. Send written material and requests to make oral presentations to Ms. Margie G. Hegy, Commandant (G-MW), U.S. Coast Guard Headquarters, 2100 Second Street SW., Washington, DC 20593-0001. This notice is available on the Internet at <http://dms.dot.gov>.

**FOR FURTHER INFORMATION CONTACT:** Ms. Margie G. Hegy, Executive Director of NAVSAC, telephone 202-267-0415, fax 202-267-4700.

**SUPPLEMENTARY INFORMATION:** Notice of these meetings is given under the Federal Advisory Committee Act, 5 U.S.C. App. 2.

#### Agendas of Meetings

*Navigation Safety Advisory Council (NAVSAC).* The agenda includes the following:

- (1) Introduction and swearing-in of new Chairperson and members.
- (2) Update on the Marine Transportation System Initiative.
- (3) Overview of Coast Guard's Research and Development Projects on Aids to Navigation and VTS/AIS.
- (4) Brief on the Formal Safety Assessment Process.
- (5) High Speed Craft—Overview of impacts to navigation safety.

*Committee on Navigation Equipment.* The agenda includes the following:

- (1) Electronic Chart System (ECS) criteria for inland/domestic vessels not subject to SOLAS.

(2) Universal Automatic Information System (AIS) carriage requirements.

*Committee on Prevention Through People (PTP).* The agenda includes the following:

- (1) Communications Plan for deck personnel.
- (2) Funding and liability issues associated with near miss reporting.
- (3) Fatigue and work hours issues for inland waterway marine personnel.

#### Procedural

All meeting are open to the public. Please note that the meetings may close early if all business is finished. At the

Chairs' discretion, members of the public may make oral presentations during the meetings. If you would like to make an oral presentation at a meeting, please notify the Executive Director no later than June 7, 1999. Written material for distribution at a meeting should reach the Coast Guard no later than June 4, 1999. If you would like a copy of your material distributed to each member of the Council in advance of a meeting, please submit 25 copies to the Executive Director no later than June 4, 1999.

#### Information on Services for Individuals with Disabilities

For information on facilities or services for individuals with disabilities or to request special assistance at the meetings, contact the Executive Director as soon as possible.

Dated: May 18, 1999.

**Jeffrey P. High,**

*Acting Assistant Commandant for Marine Safety and Environmental Protection.*

[FR Doc. 99-13156 Filed 5-24-99; 8:45 am]

BILLING CODE 4910-15-M

## DEPARTMENT OF TRANSPORTATION

### Coast Guard

[USCG-1999-5592]

#### Differential Global Positioning System (DGPS)

**AGENCY:** Coast Guard, DOT.

**ACTION:** Notice.

**SUMMARY:** The Coast Guard announces that it has determined that the Maritime Differential Global Positioning System (DGPS) Service has achieved Full Operational Capability (FOC). The network now meets the high standards for accuracy, integrity, reliability, availability, and coverage required for the Harbor Entrance and Approach phase of maritime navigation. In addition, the Coast Guard announces that it is beginning expansion of DGPS into the continental U.S. as the Nationwide DGPS (NDGPS). The NDGPS will have the same signal characteristics as the Maritime DGPS Service. However, until it is fully operational, it may not meet the same coverage, availability, and reliability specifications. This notice describes the two systems, and explains how users can identify which system is providing the signal they are using.

**DATES:** The Maritime DGPS Service was certified FOC on March 15, 1999.

**ADDRESSES:** The Docket Management Facility maintains the public docket for

this notice. It is available for inspection or copying in room PL-401 on the Plaza Level of the Nassif Building at the Docket Management Facility, US Department of Transportation, 400 Seventh Street SW, Washington DC 20590-0001. Hours are between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The telephone number is 202-366-9329. You may also access this docket on the Internet at <http://dms.dot.gov>.

#### FOR FURTHER INFORMATION CONTACT:

For questions on this notice, contact LT Terry Johns, Office of Aids to Navigation, Radio Aids Division (G-OPN-3), Coast Guard, telephone 202-267-6538. You can obtain a copy of this notice by calling the Coast Guard's Navigation Information Center at (703) 313-5900, via email [nisws@smtp.navcen.uscg.mil](mailto:nisws@smtp.navcen.uscg.mil) or on the Internet at <http://www.navcen.uscg.mil>.

For questions on viewing the docket, contact Chief, Dockets, Department of Transportation, telephone 202-366-9329.

#### For questions or copies of documents mentioned in this Notice:

1. *Federal Radionavigation Plan (FRP).* Contact the National Technical Information Service, Springfield, VA 22161 or on the Internet at <http://www.navcen.uscg.mil>.

2. *BROADCAST STANDARD FOR THE USCG DGPS NAVIGATION SERVICE, COMDTINST M16577.1.* Available on the Internet at <http://www.navcen.uscg.mil> or contact LT Terry Johns, telephone 202-267-6538, as listed above in this preamble.

3. *International Telecommunications Union (ITU) document ITU-R M.823.* Write to ITU, General Secretariat, Place des Nations, CH-1211 Geneva, Switzerland or on the Internet at <http://www.itu.ch>.

4. *International Maritime Organization's International Electrotechnical Committee (IEC) documents IEC-61108-1 and IEC-61108-4.* Write to IEC, 3 rue de Verembe' PO Box 131, CH-1211 Geneva, Switzerland or on the Internet at <http://www.iec.ch>.

#### SUPPLEMENTARY INFORMATION:

##### Determinations

On January 30, 1996, the Coast Guard determined that the Maritime DGPS Service met Initial Operational Capability (IOC) and was declared operational. This notice announces that the Coast Guard has determined that the Maritime DGPS Service achieved FOC on March 15, 1999. All Maritime DGPS Service broadcast sites are operational,

providing better than 10-meter (95 percent) horizontal navigational accuracy with integrity. Also, the Coast Guard has verified the system coverage areas, and installed beacon transmitters and antenna systems necessary to meet advertised availability and reliability standards.

In addition to the real-time DGPS correction broadcast by the Maritime DGPS Service, each site has been integrated into the Continuously Operating Reference Stations (CORS) network operated by the Department of Commerce. The full GPS signal is archived and made available publicly for all post-processing GPS applications at the following Internet address—<http://www.ngs.noaa.gov/CORS/cors-data.html>.

This notice also announces that the Coast Guard is beginning expansion of DGPS into the continental U.S. as the Nationwide DGPS (NDGPS). Eight NDGPS sites in: Appleton, WA; Whitney, NB; Savannah, GA; Penobscot, ME; Chico, CA; Hartsville, TN; Clark, SD; and Driver, VA have been installed and another eight NDGPS sites should be installed by the end of 1999. By December 31, 2002, the NDGPS is expected to provide single coverage for the continental U.S. and portions of Alaska.

Until the NDGPS achieves full operational capability, it may not meet the same coverage, availability and reliability specifications as the Maritime DGPS Service; however where healthy NDGPS signals are available, they will meet the same accuracy and integrity specifications as the Maritime DGPS Service.

### Background and Purpose

a. *Definitions.* The following terms used in this notice are defined. Further explanation may be found in the Federal Radionavigation Plan. The FRP is jointly developed by the Department of Defense and the Department of Transportation as the official source of radionavigation policy and planning for the Federal Government.

*Accuracy* of an estimated or measured position of a craft at a given time is the degree of conformance of that position with the true position of the craft at that time.

*Availability* is the percentage of time that the services of the system are usable by the navigator.

*Coverage* provided by a radionavigation system is that surface area in which the signal strengths are adequate to permit the navigator to determine a position to a specified level of accuracy.

*Full Operational Capability (FOC)* was established for the Maritime DGPS Service when the signals were capable of providing the accuracy, integrity, reliability, availability, and coverage defined in the FRP. For the NDGPS, FOC has not yet been defined.

*Initial Operational Capability (IOC)* was established for the Maritime DGPS Service when the signals were capable of being received at selected portions of the nation's coastline and major inland rivers with full integrity, and accuracy as specified by the FRP. For the NDGPS, IOC has not yet been defined.

*Integrity* is the ability of a system to provide timely warnings to users when the system should not be used for navigation.

*Reliability* is a function of the frequency with which failures occur within the system.

b. *System Description.* The FRP contains information concerning navigational accuracy required for different phases of navigation, descriptions of radionavigation systems, and plans for government operated radionavigation systems. One of the systems described in the FRP is the Global Positioning System (GPS). This space-based radionavigation system is available worldwide. The Standard Positioning Service (SPS) is the standard specified level of positioning and timing accuracy which provides a predictable positioning accuracy of 100 meters (95 percent) horizontally and time transfer accuracy to Universal Time Coordinated (UTC) within 340 nanoseconds (95 percent). Delays and adjustment factors such as propagation anomalies, errors in geodesy, or other factors, affect GPS accuracy.

The FRP defines the degree of accuracy required for the Ocean and Coastal phases of maritime navigation. GPS has met these standards for some time. However, unaugmented GPS provides only 100-meter accuracy (95 percent) horizontal. This performance does not meet the more precise accuracy requirements defined for the U.S. Harbor Entrance and Approach phase of maritime navigation by the FRP. Additionally, other Coast Guard missions such as Vessel Traffic Services and positioning aids to navigation require higher levels of accuracy than unaugmented GPS can provide. In addition, the unaugmented GPS service may be inadequate for many proposed land-based applications.

GPS augmentations are designed to provide integrity and to improve position accuracy. The Coast Guard Maritime DGPS Service augments GPS by using a system of DGPS broadcast sites to provide pseudo-range

corrections and integrity checks for users within the advertised coverage area of each site. Each site is surveyed to establish its precise location. Using this known location, the station calculates a pseudo-range correction for each satellite in view. The user receives GPS signals from the satellites and DGPS corrections from the DGPS broadcast site. Those corrections are automatically applied to the individual satellite pseudo-ranges in DGPS user equipment. The resulting calculated position accuracy is better than 10 meters (95 percent) horizontal, and may be more accurate depending on factors including user equipment capabilities, positioning process, and the user's distance from the DGPS broadcast site. Positioning accuracy near the site can be as good as one-half meter, but degrades up to one meter for every 150 kilometers from the DGPS broadcast site. Given this degradation, users are encouraged to identify and use the nearest healthy DGPS site to receive the most accurate corrections.

In addition to providing a highly accurate navigational signal, the Maritime DGPS Service also provides a continuous integrity check on GPS satellite health. Due to the design of the ground segment of GPS, a satellite can be transmitting an unhealthy signal for 2 to 6 hours before it can be detected and corrected by the Master Control Station or before users can be warned not to use the signal. However, the equipment at a DGPS broadcast site can detect a malfunctioning satellite and inform users. Through its use of continuous, real-time messages, the Maritime DGPS Service can often extend the use of unhealthy GPS satellites by providing accurate corrections, or by directing the navigator to ignore erroneous GPS signals.

The Federal Government has completed the establishment of the Maritime DGPS Service and is beginning the expansion of that service to create the NDGPS. The Coast Guard currently operates the Maritime DGPS Service, which includes coastal areas of the continental U.S., the Great Lakes, Puerto Rico, portions of Alaska and Hawaii, and portions of the Mississippi River Basin. The Federal Railroad Administration is sponsoring the NDGPS, and the Coast Guard is responsible for the establishment, operation, management, and future improvements of the service. The NDGPS is planned to provide dual signal coverage for the continental U.S. and the major transportation corridor in Alaska, from Anchorage to Fairbanks, with single signal coverage planned for the interior of Alaska. The NDGPS will

provide the required enabling technology for the Federal Railroad Administration's Positive Train Control initiative, and will benefit the Federal Highway Administration's Intelligent Transportation Systems, precision farming, weather forecasting, survey, and other applications. NDGPS sites may be identified by one or more of the methods described in paragraph c.1-3 of this notice.

*c. System Identification/Notifications:* Occasionally, Maritime and Nationwide DGPS signals may not meet the established service requirements of accuracy, integrity and coverage. When such a condition occurs, one or more of the following notifications are made:

(1) Through Coast Guard Broadcast Notice to Mariners for those sites with maritime coverage. The processes to notify terrestrial (NDGPS) users have not been defined. Until such time as the process for those notices is developed, concerned users are encouraged to use the resources in (2).

(2) By the Navigation Information Center at (703) 313-5900 or <http://www.navcen.uscg.mil>.

(3) By a type 16 informational message transmitted by the site.

(4) By automatic transmission of "DO NOT USE" values, or Unmonitored/Unhealthy health codes embedded in the standardized GPS correction messages.

*d. Equipment.* The following equipment is capable of receiving and applying broadcast station DGPS correction messages:

1. A GPS receiver that has the ability to accept differential correction messages that comply with the BROADCAST STANDARD FOR THE USCG DGPS NAVIGATION SERVICE, COMDTINST M16577.1.

2. A differential beacon receiver designed to receive differential correction messages that comply with the BROADCAST STANDARD FOR THE USCG DGPS NAVIGATION SERVICE, COMDTINST M16577.1.

These two pieces of equipment are often integrated into a single unit. Users should note that the quality of equipment selected will have an effect on their ability to receive the differential transmissions, and on the final navigational accuracy achieved after these corrections are applied in the GPS receiver. Appropriate authority will promulgate specific standards.

Further international maritime DGPS signal standards are contained in the International Telecommunications Union document: ITU-R M.823. Maritime GPS/DGPS receiver specifications and minimum performance standards are prepared by

the International Maritime Organization's International Electrotechnical Committee. The GPS receiver specifications are contained in IEC-61108-1; the maritime DGPS receiver specifications are still under development, the draft specifications are contained in document IEC-61108-4.

Dated: May 14, 1999.

**Ernest R. Riutta,**

*Rear Admiral, U.S. Coast Guard, Assistant Commandant for Operations.*

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### Airworthiness and Operational Approval of Digital Flight Data Recorder Systems

**AGENCY:** Federal Aviation Administration (DOT).

**ACTION:** Notice of availability for public comment.

**SUMMARY:** This notice announces the availability of and requests comments on an advisory circular (AC) that provides guidance on design, installation, and continued airworthiness of Digital Flight Data Recorder Systems (DFDRS). The AC applies to applicants for type certificates and supplemental type certificates for aircraft that are required to have a digital flight data recorder installed. It also applies to operators of those aircraft. Specifically, the AC provides guidance for design approval, schedule of compliance, and post-installation actions, including functional and operational checks, demonstrations, documentation and maintenance program changes.

**DATES:** Comments submitted must be received on or before June 25, 1999.

**ADDRESSES:** Send all comments on the proposed advisory circular to: Federal Aviation Administration (FAA), Aircraft Certification Service, Aircraft Engineering Division, Avionic Systems Branch, AIR-130, 800 Independence Avenue, SW, Washington, DC 20591. Or deliver comments to: Federal Aviation Administration, Room 815, 800 Independence Avenue, SW., Washington, DC 20591.

**FOR FURTHER INFORMATION CONTACT:** Michelle Swearingen, Federal Aviation Administration (FAA), Aircraft Certification Service, Aircraft Engineering Division, Avionic Systems Branch, AIR-130, 800 Independence

Avenue, SW, Washington, DC 20591, Telephone: (202) 267-3817, FAX: (202) 493-5173.

#### Comments Invited

Interested persons are invited to comment on the proposed advisory circular listed in this notice by submitting such written data, views, or arguments, as they desire, to the specified address. Comments received on the proposed advisory circular may be examined, before and after the comment closing date, in Room 815, FAA Headquarters Building (FOB-10A), 800 Independence Avenue, SW, Washington, DC 20591, weekdays except Federal holidays, between 8:30 a.m. and 4:30 p.m. All communications received on or before the closing date for comments specified above will be considered by the Director of the Aircraft Certification Service before issuing the final AC.

#### Background

AC 20-DFDRS, Airworthiness and Operational Approval of Digital Flight Data Recorder Systems, provides guidance on design, installation, and continued airworthiness of DFDRS. On July 17, 1997, the FAA revised 14 CFR parts 121, 125, 129, and 135 to require that certain aircraft be equipped to accommodate additional flight data recorder parameters. The purpose of this revision was to provide additional information to enable the National Transportation Safety Board to conduct more thorough investigations of accidents and incidents. The additional information would also be available to manufacturers and operators to detect and evaluate trends that may be useful in determining modifications or other actions to avoid accidents and incidents. The FAA determined that an AC should be published to include guidance for type certificate and supplemental type certificate applicants as well as certificate holders operating under 143 CFR Parts 121, 125, 129, and 135. The AC would address the type certification requirements of parts 21, 23, 25, 27, and 29 and the operating requirements of parts 121, 125, 129 or 135, emphasizing the changes introduced on July 17, 1997.

The AC is effective on publication. Should the FAA determine that changes are required as a result of comments received, a revised AC will be published.

#### How To Obtain Copies

A copy of the proposed AC 20-DFDRS may be obtained via Internet (<http://www.faa.gov/avr/air/airhome.htm>) or on request from the