Billing Code 4910-9x

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

DEPARTMENT OF TRANSPORTATION

Office of the Assistant Secretary for Research and Technology

DEPARTMENT OF DEFENSE

U.S. Army Corps of Engineers

[DOT-OST-2015-0105]

Nationwide Differential Global Positioning System (NDGPS)

AGENCIES: DHS - Coast Guard, DOT – Office of the Assistant Secretary for Research and Technology (OST-R), and DOD - U.S. Army Corps of Engineers, Office of Engineering and Construction

ACTION: Notice

SUMMARY: The United States Coast Guard (USCG), U.S. Department of Transportation (DOT), and United States Army Corps of Engineers (USACE) published a notice on August 18, 2015 seeking public comments on the proposed shutdown and decommissioning of 62 the then-existing 84 Nationwide Differential Global Positioning System (NDGPS) sites. After a review of the comments received, we have reduced to 37 the number of NDGPS sites to be shutdown, 9 of which are USCG Maritime sites and 28 of which are DOT inland sites. As a result of this action, the NDGPS system will remain operational with a total of 46 USCG and USACE sites available to users in the maritime and coastal regions.

FOR FURTHER INFORMATION CONTACT: If you have questions on this notice, contact CAPT Scott Smith, Coast Guard, telephone (202) 372-1545 or e-mail scott.j.smith2@uscg.mil; or James Arnold, U.S. DOT OST-R, NDGPS Program Manager, telephone (202) 366-8422 or e-mail NDGPS@dot.gov.

SUPPLEMENTARY INFORMATION:

Background and Purpose

The USCG began development of the Maritime Differential Global Positioning System (MDGPS) in the late 1980s. In 1994, the USCG published a Federal Register notice (59 FR 13757; March 23, 1994) discussing the accuracy limitations in the GPS system, and informing the public that the USCG's Differential GPS Service would be implemented for harbor and harbor approach areas by 1996. The USCG's Maritime DGPS system used land-based reference stations to enhance the accuracy of GPS to the International Maritime Organization (IMO) harbor approach standard for near-coastal maritime navigation. Through Presidential Decision Directive NSTC-6, U.S. Global Positioning System Policy, (March 28, 1996) the President designated the U.S. Department of Transportation as the Nation's "lead agency for all Federal civil GPS matters." The Directive further required the USDOT to "develop and implement U.S. Government augmentation to the basic GPS for transportation applications." The USCG's Maritime DGPS Service was established as an

augmentation to GPS to aid maritime navigation in certain harbors and harbor approach areas. Enacted on October 27, 1997, Section 346 of the Department of Transportation and Related Agencies Appropriations Act of 1998, Public Law 105-66, 111 Stat. 1425, authorized the USDOT to establish, operate and manage the NDGPS system. Furthermore, section 346 authorized the Secretary to integrate the USCG's existing Maritime DGPS reference stations with the NDGPS, and to ensure System compatibility with the Continuously Operating Reference Stations (CORS) network, which had been independently established by the National Geodetic Survey.

Pursuant to this statutory authority, the Secretary established 29 inland DGPS sites, which along with the USCG's Maritime DGPS sites, and seven sites established by the U.S. Army Corps of Engineers (USACE), collectively comprised the Nationwide DGPS (NDGPS) system. Pursuant to a 1999 delegation of authority from the Secretary of Transportation (64 FR 7813; February 17, 1999), the Commandant of the USCG was designated as lead for implementation, operation, and maintenance of the NDGPS service. The Secretary retained authority for System requirements and associated responsibilities under the National Environmental Policy Act (NEPA), and assumed the role of NDGPS sponsor and chair of the multi-agency NDGPS Policy and

Implementation Team (PIT), which directs the overall management of the NDGPS system.

Since its establishment in the late 1990s, several factors have contributed to the stagnation of transportation-related use of NDGPS, including lack of a regulatory requirement for vessels to carry DGPS equipment within U.S. territorial waters, technological advances in GPS that have increased its accuracy, increased reliability of other GPS augmentation systems that do not require a second receiver, limited availability of consumer-grade DGPS radio beacon receivers, and the discontinuance of GPS Selective Availability.

On August 18, 2015, USCG, DOT, and USACE published a notice in the *Federal Register* seeking public comments on the proposed shutdown and decommissioning of 62 NDGPS sites on January 15, 2016 (see 80 FR 50018). The DHS, DOT, and USACE received 168 comments in response to the notice, several of which were duplicate entries. Due to the number and nature of comments received, the USCG, DOT, and USACE decided to postpone the proposed closing of the sites until the comments were thoroughly reviewed. As a result of our analysis of these comments, which is discussed below, we determined that only 37 of the 62 sites proposed will be shut down and decommissioned, leaving a total of 46 USCG and USACE sites that will continue to provide single-site coverage for the maritime areas currently covered by the

USCG and USACE. Termination of the NDGPS broadcast at the sites listed below is planned to occur 30 days after the publication of this notice in the *Federal Register*.

Discussion of Comments:

Inland Coverage:

Several comments were received that addressed the inland portion on NDGPS but none identified a Federal transportation requirement. The determination to shut down 28 inland NDGPS sites reflects the lack of a federal transportation requirement to maintain a DGPS signal at these sites in response to the August 2015 Federal Register Notice and limited availability of consumer-grade NDGPS radiobeacon receivers.

Continuously Operating Reference Station Comments:

Almost half of the received comments requested that particular sites remain open as a data source to support surveying, science, and natural resource management. Each of the NDGPS sites announced for closure in the August 2015 Notice also serves as a Continuously Operating Reference Station (CORS) data source. The CORS network contains approximately 2000 individual sites owned and operated by almost 200 different public and private entities. The CORS data is principally used

by scientists, surveyors and engineers to improve the precision of GPS data. Additionally, natural resource agencies also rely on the CORS sites in the management and oversight of national parks, forestry and agriculture. Each CORS site provides data via the internet to the National Geodetic Survey, which analyzes the data and then distributes it to the public free of charge. The science, land surveying and engineering professionals who utilize the CORS system to refine three-dimensional position data do not use the DGPS radio broadcast signal developed and operated for surface and maritime transportation purposes.

The USCG will consider the transfer of ownership and or operational control of the below-listed NDGPS sites to private entities or other Federal, State, and/or local agencies interested in continuing to operate them as CORS sites. Questions about potential transfer of specific CORS sites should be directed to the individual(s) referenced in the FOR FURTHER INFORMATION CONTACT section above.

Maritime Coverage:

Approximately one third of the comments received came from maritime users of the NDGPS system, including marine pilots, dredging companies and marine surveyors or hydrographers, who urged the USCG and USACE to retain the existing maritime sites. 58 of these maritime comments addressed specific maritime DGPS uses and advocated for retaining DGPS sites. 44 of the 58

comments expressed a need for enhanced precision for navigation provided by DGPS (e.g. piloting) and 14 of the 58 comments expressed a need for enhanced precision for positioning to support marine surveying and dredging. Commenting parties included regional and national associations of maritime pilots and professionals as well as both U.S. (USACE, NPA, NOAA) and foreign government agencies (Canada and United Kingdom). Based upon these comments, USACE elected to not close any of its DGPS sites. For similar reasons, the USCG determined that it will retain all but nine of its existing sites and will only close sites where another site already provides coverage or where no maritime users expressed a need to keep the site open. As a result, the USCG's maritime DGPS system will remain largely intact. However, certain locations will no longer have DGPS coverage from multiple sites. With the exception of Puerto Rico and Cold Bay, Alaska, where the USCG will no longer provide DGPS coverage due to a lack of expressed need, the remaining USCG system will provide single-site DGPS coverage for port and harbor approaches in all areas currently covered by single or multiple-site coverage.

General Comments:

An additional 16 comments expressed a general interest in retaining the system without specifying a discrete use or application requiring the service to remain intact. Another 6

comments were provided on behalf of standards bodies and advocacy organizations regarding potential application of NDGPS infrastructure for future complementary positioning, navigation and timing systems (e.g. eLoran and R-Mode).

After evaluating the feedback received, USCG and USACE will retain more sites than were originally proposed for retention in the August 2015 *Federal Register* Notice to continue providing DGPS coverage to maritime users, while reducing coverage redundancies and coverage to areas where no maritime interests expressed a need for continued operation. The reduced system will continue to provide DGPS services for precision maritime navigation, marine surveying, and dredging as we continue to research and assess DGPS use and alternatives based upon advances in GPS precision and augmentation technology.

Sites to be Disestablished:

Termination of the NDGPS broadcast at the following sites is planned to occur 30 days after the publication of this notice the *Federal Register*.

List of Maritime Sites to be Disestablished

- Brunswick, ME
- Cold Bay, AK
- Eglin, FL

- Isabela, PR
- Lompoc, CA
- Pickford, MI
- Saginaw Bay, MI
- Sturgeon Bay, WI
- Key West, FL

List of Inland Sites to be Disestablished

- Albuquerque, NM
- Austin, NV
- Bakersfield, CA
- Billings, MT
- Chico, CA
- Clark, SD
- Dandridge, TN
- Essex, CA
- Flagstaff, AZ

- Greensboro, NC
- Hackleburg, AL
- Hagerstown, MD
- Hartsville, TN
- Hawk Run, PA
- Klamath Falls, OR
- Macon, GA
- Medora, ND
- Myton, UT
- Pine River, MN
- Polson, MT
- Pueblo, CO
- Savannah, GA
- Seneca, OR
- Spokane, WA
- St. Marys, WV

- Summerfield, TX
- Topeka, KS
- Whitney, NE

Graphics depicting the proposed changes to NDGPS coverage are available at the USCG's NDGPS General Information website at: http://www.navcen.uscg.gov/?pageName=dgpsMain.

For more information on the NDGPS Service, visit the USCG's website at http://www.navcen.uscg.gov/?pageName=dgpsMain.

Additional information on GPS, NDGPS, and other GPS augmentation systems is also available in the 2014 Federal Radionavigation Plan, published by the Department of Defense, DHS, and DOT, which is also available at the USCG's website at http://www.navcen.uscg.gov/?pageName=pubsMain.

Authority

This notice is issued under the authority of 5 U.S.C. 552(a), 14 U.S.C. 81, and 49 U.S.C. 301 (Pub. L. 105-66, section 346).

Issued in Washington, DC, on June 21, 2016.

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CAPT David C. Barata
Director of Marine Transportation Systems, Acting
U.S. Coast Guard

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Mr. Gregory D. Winfree
Assistant Secretary for Research and Technology
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Mr. James C. Dalton, P.E.
Chief, Engineering and Construction
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[FR Doc. 2016-15886 Filed: 7/1/2016 8:45 am; Publication Date: 7/5/2016]