Resolution 12-05

Continued Maintenance / Operation of Differential Global Positioning System

Whereas NAVSAC is charged with providing advice and recommendations to the Secretary of Homeland Security, through the Commandant of the U.S. Coast Guard, on matters relating to maritime and navigation safety, including navigation equipment and navigation systems;

Whereas the U.S. Coast Guard, pursuant to 14 U.S.C. § 81, "may establish, maintain, and operate…electronic aids to navigation systems…required to serve the needs of the maritime commerce of the United States";

Whereas coastal, harbor-entrance and approach, and inland waterway navigation have unique characteristics (i.e., limited depths and widths, winding channels, increasing commercial vessel sizes, reduced under-keel clearance, high vessel traffic density, etc.). And **whereas** the need for frequent maneuvering of vessels to avoid collision and allision, and the close proximity to grounding dangers, impose more stringent requirements for position accuracy, reliability, and real-time guidance information than open water navigation;

Whereas U.S. Coast Guard Differential Global Positioning System (DGPS) provides the necessary position accuracy, reliability and real-time guidance for coastal, harbor entrance and approach, and inland waterway navigation.

Whereas in real-world, shipboard applications, GPS uncorrected by differential signals frequently provide significantly greater errors than DGPS, and cannot consistently provide the advertised 10-meter accuracy.

Whereas DGPS is relied upon by mariners and is a vital tool for mariners operating in and near coastal, harbor entrances and approaches, and in inland waterways and it significantly enhances navigational and marine safety in these areas;

Whereas NAVSAC believes the U.S. Coast Guard's usage analysis may have significantly underestimated how many mariners are using DGPS;

Whereas DGPS provides a means for monitoring the integrity of the GPS signal;

Whereas practical experience has demonstrated that GPS augmented by Wide Area Augmentation System (WAAS) does not, consistently and in all geographic areas, provide the necessary position accuracy, reliability and real-time guidance for coastal, harbor entrance and approach, and inland waterway navigation;

Whereas WAAS is a satellite-based augmentation system requiring consistent line of sight to a low-elevation geosynchronous satellite rather than the Medium Frequency (MF)-based correction signal of DGPS, GPS positions based upon WAAS corrections are more

subject to signal loss when line of sight cannot be maintained and, therefore, "position jumping."

Whereas NAVSAC has been made aware that the Federal Government is contemplating defunding and ceasing the operation and maintenance of the DGPS in the United States;

Therefore, NAVSAC strongly recommends to the Secretary of Homeland Security, through the Commandant of the U.S. Coast Guard, the following actions:

1. Announce publically a clear policy to maintain and continue to operate DGPS in coastal, harbor entrance and approach and inland waterway areas of the United States;
2. Request annual appropriations, through the Congressional budget process, sufficient to maintain and operate DGPS in the coastal, harbor entrance and approach, and inland waterway areas of the United States.