NENA
The 9-1-1 Association
1700 Diagonal Road | Suite 500 | Alexandria, VA 22314

Ms. Marlene H. Dortch, *Secretary*
Federal Communications Commission
445 12th Street SW
Washington, D.C. 20554

February 21st, 2017

In re Waiver of Part 25 Licensing Requirement for Receive-Only Earth Stations Operating with the Galileo Radionavigation-Satellite Service. IB Docket No. 17-16.

Dear Ms. Dortch:

I write to provide brief comments of the National Emergency Number Association, Inc., in support of the European Commission's ("EC's") waiver request.

In its Public Notice in this proceeding, the Commission specifically seeks comment on public benefits that may be obtained by granting the EC's request. In NENA's view there are three clear benefits to approving the waiver. First, approving the EC's waiver request will improve the availability and reliability of alternative (non-NavStar/GPS) GNSS signals, particularly in challenging environments. Second, it will improve system performance for both caller location and call routing. Third, it will reduce geopolitical uncertainty as to the accuracy, integrity, and availability of the overall 9-1-1 positioning technology suite.

Today, virtually every US consumer carriers a "receive-only earth station" for RNSS signals in her or his pocket: a smartphone. Most of these smartphones are built for a global marketplace, one in which support for multiple RNSS systems is increasingly a competitive and regulatory requirement. Supporting multiple RNSS systems benefits consumers by increasing the number of satellite vehicles that may be "in view" from any given location. This increases the probability that a smartphone will be able to obtain a fix, particularly in challenging environments such as indoors or in densely-forested areas. Even when a single-system fix would otherwise have been available, however, supporting multiple systems provides an independent source of location data that can prove vital in resolving position ambiguities or detecting error conditions in the primary system. With mobile callers now accounting for more than 75% of 9-1-1 calls in many jurisdictions, ensuring the availability of RNSS-derived position fixes is vital to the continued success of wireless Enhanced 9-1-1, and the future Next Generation 9-1-1 ecosystem. Granting the EC's waiver request will provide a new tool that handset manufacturers can use to help reliably locate their customers in an emergency.

Beyond improving the availability and reliability of RNSS fixes for 9-1-1 callers, approving the EC's request will make available *dramatically* superior positioning signals on an accelerated timeframe. Much like the U.S.-based GPS "Block-III" upgrade, the Galileo system will support new positioning signals, including a double-power signal with improved multipath mitigation characteristics on the 1191.795MHz "L5/E5" frequency. Whether from the NavStar/GPS constellation or the Galileo constellation, this new signal class will provide significant public safety benefits: It will improve the availability, speed, and quality of indoor fixes by better-penetrating building materials, better resisting multipath errors, and better covering available signal apertures. Moreover, its use in combination with existing and future RNSS L1/E1 signals at 1575.42MHz will permit receivers to directly cancel the single largest source of positioning error, localized ionospheric propagation delay. While it is true that a significant fraction of U.S. NavStar/GPS satellites already support L5

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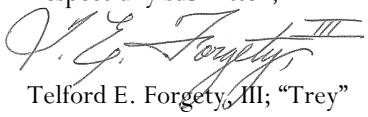
signals (and that more will do so in the future), public availability of these signals in a "healthy" state is currently subject to an indefinite delay, related to ongoing ground-segment upgrade challenges. Because the Galileo system is being deployed at a rapid pace with E5 signals being activated on roughly the same schedule as E1 signals, the practical availability of these improved signals may sooner obtain for users of Galileo receivers than for users of GPS-only receivers. Whether for nearer-term availability of real-time position-based routing, or for reductions in position uncertainty, there is no doubt that the availability of Galileo RNSS signals for emergency calling purposes will improve consumer outcomes over the long term.

Whatever the technical merits of granting the EC waiver request, NENA believes that the geopolitical security implications, even alone, warrant authorizing the reception of Galileo signals. For some years, NENA has supported the adoption of additional RNSS signals for 9-1-1 location use. We recognize that not all foreign RNSS operators have interests that are consistently well-aligned with those of the United States. As a result, we have generally accepted limitations on the use of such systems when agencies of the United States Government have expressed concerns about their potential for manipulation or exploitation. Authorizing the reception of Galileo signals will provide a new potential source of positioning information for 9-1-1 calls that may be subject to fewer such concerns, owing to the historically close and supportive relationship our nation enjoys with most E.U. member states, and with supra-national E.U. instrumentalities, generally. While continuing to support the adoption of "all-in-view" receivers for devices capable of contacting 9-1-1, NENA wishes to express, in the strongest possible terms, our specific support for a grant of the waiver relief requested by the E.C. Such an action is clearly in the interest of the public and the public safety community by which the public is served.

Please contact the undersigned with any questions.

Respectfully submitted,



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Director of Government Affairs