May 31, 2016
To: FCC
From: National Marine Electronics Association
Steve Spitzer, Director of Standards
RE: RTCM Petition for Comments for Part 80
Proceeding # RM-11765
47 CFR Part 80,

The National Marine Electronics Association (NMEA) is a 59 year non-profit organization whose mission is committed to enhancing the technology and safety of electronics used in marine applications. NMEA facilitates and supports the development and implementation of standards and uniform government regulations for the marine electronics industry applicable to recreational and regulated vessels.

One of the main objectives of NMEA includes the creation and maintenance of marine electronics interface standards. NMEA interface standards are embedded, in most if not, all navigation and communication marine devices worldwide assuring reliable and safe interoperability and interconnectivity of devices for the maritime industry. NMEA’s has been in developing interface standards since 1980 with the advent of the first world’s first interface standard NMEA 0180.

As technologies have advanced, NMEA’s standards have advanced keeping pace with technology. NMEA interface standard, NMEA 0183, is accepted worldwide and is the basis for the International Electrotechnical Commission (IEC) IEC 61162-1 standard. In addition, NMEA 0183 High Speed, is accepted worldwide and is the basis for the IEC 61162-2 standard. Further, NMEA 2000, based on the ubiquitous Controller Area Network (CAN), is accepted worldwide and is the basis for the IEC 61162-3 directly referenced.

The NMEA 0400 Installation Standard (NMEA 0400) is the only published standard completely dedicated to the proper and safe installation of marine electronic devices and systems. The NMEA 0400 demonstrates the best practices for the field installers and integrators. The NMEA 0400 has been accepted
by a number of maritime technical schools as part of their educational curriculum. It is also the basis for training and upgrading the skill sets of the marine electronic workforce.

NMEA supports the needs of the maritime industry with the ongoing collaborative participation with governmental and other standard organizations domestically and internationally. NMEA has worked very closely with the United States Coast Guard to assure that the standards meet all of the safety requirements of the United States Coast Guard.

**NMEA supports the RTCM’s petition to put these proposed CFR 47, Part 80 changes out as a notice of proposed rulemaking (NPRM).**

The NMEA hereby submits comments to the Commission for the Proceeding Number RM 11765 submitted by RTCM regarding regulations at 47 CFR Part 80. NMEA comments are meant to enhance maritime safety, promote the efficiency for the users and manufacturers of maritime equipment. The NMEA proposed comments will not undermine domestic maritime practices and U.S. regulatory objectives.

1) §80.7 Incorporation by reference.

   (h) National Marine Electronics Association (NMEA), 692 Ritchie Highway, Suite 104, Severna Park, MD 21146, telephone 410-975-9425, www.nmea.org, info@nmea.org

   REASON: The physical address has changed.

   (1) REASON: NMEA is the basis of IEC 61162-1. *Incorporating this standard by reference would allow manufacturers the option of using a more up-to-date data interface than that described by IEC.*

   **Add the following:**
   REASON for addition: USCG Regulations recognizes use of AIS ATONs per 33 CFR § 62.52 Automatic Identification System Aids to Navigation (AIS AtoN). NMEA 0183 contains the interface specifications and additional requirements for AIS shore stations (AIS AtoN, AIS base-stations, AIS repeaters).

   (2) **Add the following:**
REASON: USCG Regulations recognizes use of AIS. NMEA 0183 HS is the basis for IEC 61162-2.
(3) Add the following:

REASON: NMEA 2000 is the basis for IEC 61162-3. IEC 61162-3 is referenced in #17 of this section. Incorporating this standard by reference would allow manufacturers the option of using a more up-to-date data interface than that described by IEC.

(4) Add the following:

REASON: The NMEA 0400 Installation Standard provides accepted best practices for the installation of DSC radio equipment Radar and AIS mobile equipment identified in Part 80 as in § 80.59, § 80.169, § 80.177, § 80.203, § 80.901

2) §80.225 Requirements for selective calling equipment.

This section specifies the requirements for voluntary digital selective calling (DSC) equipment and selective calling equipment installed in ship and coast stations, and incorporates by reference ITU–R M.493; IEC 62238; IEC 61162-1; IEC 61162-3; IEC 61162-450; NMEA 0183 and NMEA 2000 all incorporated by reference, see §80.7).

REASON: NMEA 2000 is the basis for IEC 61162-3. Many DSC radio manufacturers are implementing NMEA 2000 within their products. Incorporating this standard by reference would allow manufacturers the option of using a more up-to-date data interface than that described by IEC.

(5) Beginning [after the effective date of these rules], the FCC will not accept new applications (but will continue to process then-pending applications) for certification of DSC equipment having MMSI encoding modification provisions of §80.16(i). The equipment shall have data interface capability meeting the requirements of NMEA 0183, IEC 61162-1, NMEA 2000, IEC 61162-3 or IEC 61162-450 including the DSC and DSE data interface sentence or its equivalent, as incorporated by reference in §80.7(h)(1), (d)17 and (d)(18), respectively.

REASON: NMEA 2000 is the basis for IEC 61162-3. Many DSC radio manufacturers are implementing NMEA 2000 within their products. Incorporating this standard by reference
would allow manufacturers the option of using a more up-to-date data interface than that described by IEC.

(6):

**Add the following:**
DSC Installation should be installed in accordance with the NMEA 0400 Installation Standard.

**REASON:** The NMEA 0400 Installation Standard provides guidance and best practices for the reliable and safe installation of DSC radios.

3) § 80.273 Radar standards

**Add the following:**
(7) NMEA 0183 HS incorporated by reference in §80.7(h)(2)
(8) NMEA 2000 incorporated by reference in §80.7(h)(3)

**REASON:** Deleted standards are otherwise incorporated by reference and need not be included here. Added standards (IEC 61162-series and NMEA 0183, NMEA 0183, NMEA 2000) are intended to allow flexibility in data interface beyond that specified elsewhere.

6) Add the following:
Radar Installation should be installed in accordance with the NMEA 0400 Installation Standard

**REASON:** The NMEA 0400 Installation Standard provides guidance and best practices for the reliable and safe installation of radar.

§ 80.903 Inspection of radiotelephone installation.

FCC-licensed technician in accordance or by NMEA Certified Marine Electronics Technician (CMET) who possess a FCC General Radio Operators License (GROL)

**REASON:** FCC has agreed that the NMEA CMET with a GROL can perform small ship inspections
80.905 Vessel radio equipment.

c) Add the following:
DSC Installation should be installed in accordance with the NMEA 0400 Installation Standard

REASON: The NMEA 0400 Installation Standard provides guidance and best practices for the reliable and safe installation of DSC radios.

80.1017 Antenna system.

a) Add the following:
Antenna Installation should be installed in accordance with the NMEA 0400 Installation Standard

REASON: The NMEA 0400 Installation Standard provides guidance and best practices for the reliable and safe installation of Antennas.

4) § 80.59 Compulsory ship inspections

(A) VHF Radio Installation

Add the following:
VHF Installation should be installed in accordance with the NMEA 0400 Installation Standard

REASON: The NMEA 0400 Installation Standard provides guidance and best practices for the reliable and safe installation of VHF radios.
5) 80.169 Operators required to adjust transmitters or radar.

(a)

Add the following:
Radar should be installed in accordance with the NMEA 0400 Installation Standard.

REASON: The NMEA 0400 Installation Standard provides guidance and best practices for the reliable and safe installation of marine electronic equipment.

6) 80.177 When operator license is not required.

Add the following:
Radiotelephone should be installed in accordance with the NMEA 0400 Installation Standard.

REASON: The NMEA 0400 Installation Standard provides guidance and best practices for the reliable and safe installation of VHF radios.

7) 80.203 Authorization of transmitters for licensing

d)

Add the following:
Radars should be installed in accordance with the NMEA 0400 Installation Standard.

REASON: The NMEA 0400 Installation Standard provides guidance and best practices for the reliable and safe installation of radars.

8) § 80.809 Technical, performance, certification and operational standards for AIS equipment.

(ii) Either (1) NMEA 0183 Interface Standard, incorporated by reference in §80.7(h)(1), or IEC 61162-1, “Maritime navigation and radiocommunication equipment and systems—Digital interfaces—Part 1: Single talker and multiple listeners,” incorporated by reference in §80.7(d)(15), or (2) NMEA 2000 Interface Standard, incorporated by reference in
§80.7(h)(3), or IEC 61162-3 “Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 3: Serial data instrument network”, incorporated by reference in 80.7(d)(17), or (4) IEC 61162-450 “Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 450: Multiple talkers and multiple listeners - Ethernet interconnection”, incorporated by reference in 80.7(d)(18).

**REASON:** While NMEA 0183 and IEC 61162-1 are equivalent, they are not identical in all respects. Because the NMEA version is typically the originating version, use of NMEA is preferred where differences do occur. Because foreign certification authorities and test houses may in some cases only recognize the IEC version of this standard, use of the IEC version is acceptable.

Add the following:

**REASON:** While NMEA 2000 and IEC 61162-3 are equivalent, they are not identical in all respects. Because the NMEA version is the originating version, use of NMEA is preferred where differences do occur. Though foreign certification authorities and test houses may in some cases only recognize the IEC version of this standard, use of the NMEA 2000 version is acceptable.