

APPLICATION FOR SPECIAL TEMPORARY AUTHORITY  
U.S. SAILING  
ISAF SAILING HEMPEL WORLD CUP MIAMI REGATTA  
File No. 2154-EX-ST-2018  
NARRATIVE AND FREQUENCY COORDINATION EXHIBIT

The purpose of this experimental operation, sponsored by U.S. Sailing, is to field deploy for developmental testing and proof-of-concept testing purposes a radiolocation system developed by ST Sportservice of Germany (a division of Swiss Timing) for purposes of precise location of sailing vessels in a sailing regatta. The instant application proposes STA operation identical to field tests conducted pursuant to Special Temporary Authority granted by the Commission to this same entity at this same location in January of 2014, 2015 and 2016; see WH9XFL, File No. 0015-EX-ST-2014; WI9XEU, File No. 1171-EX-ST-2014, and WI9XEU, File No. 1279-EX-ST-2015. No interference was reported whatsoever at any of the past events.

The applicant, U.S. Sailing, is the sponsor of the 2019 ISAF Sailing Hempel World Cup Miami, a televised sailing regatta that is part of the International ISAF Sailing World Cup Regatta. In the United States, this event will take place in Biscayne Bay, Florida, between January 26, 2019 through and including February 4, 2019. Fixed, land-based receivers for the radiolocation facilities that are to be deployed in connection with this RF system will be located at and controlled from the U.S. Sailing Center in Miami at 2476 South Bayshore Drive in Coconut Grove, Florida 33133.

The **Stop Buzzer contact** for this testing is Mr. Mike Waters, Chief Technology Officer for U.S. Sailing, whose telephone number on site is 617-416-2682. He can also be reached at [mikewaters@ussailing.org](mailto:mikewaters@ussailing.org).

The application proposes the use of two types of transponders for short-range and long-range radiolocation of individual sailing craft participating in the regatta. There will be six different race courses in use simultaneously. The short-range system will be operated in the band 902-928 MHz using seven different, one-megahertz bandwidth channels. The transmitter power will be up to 316 milliwatts (+25 dBm) with omnidirectional dipole antennas. The transmit duty cycle will be 2 milliseconds every 2 seconds. There will be up to 70 devices used at any given time. This is far fewer transponders than have been previously deployed at this same event in past years. The need for 70 transponders is that the proposed application is a precise radiopositioning system that has been designed for sailboat racing. It determines the exact location of each sailboat in the race. To do this, it uses multiple, very low power transmitters per boat at various locations on each boat, and there are six racecourses in use at once at the test event in Biscayne Bay. This system cannot function with fewer than the specified number of boat-mounted transmitters.

The long-range system will operate in the band 433-435 MHz with seven channel pairs, each channel being 25 kHz wide, at transmitter power levels up to 10 watts (+40 dBm). Antennas will be omnidirectional, at up to 4 dBi gain. The transmitter duty cycle is less than one second during each 2 seconds. This application proposes the use of frequency bands allocated to the Amateur Radio Service. Operation pursuant to this STA has been coordinated in advance with

ARRL, the national association for Amateur Radio, and with local frequency coordinators of the Florida Repeater Council. Should any interference be reported, operation on the subject frequency will immediately cease and will not resume unless and until resolved to the satisfaction of the licensee affected. Channels will be selected in the 902-928 MHz band which are not in use by LMS system licensees in south Florida or used by local Amateur Radio operators.

All of the experimental devices will be under control of United States Sailing Association, Inc. and they will be retrieved by United States Sailing Association, Inc. from the participants upon completion of the experiment. This authorization is requested for the express purpose of conducting experimental operations described in the application. There will be no other use of this authorization in any other manner or for any other purpose. Except as subsequently authorized by the Commission, the facilities proposed will not be operated after the expiration date of the STA. The total number of experimental devices shall not exceed 70. United States Sailing Association, Inc. will be responsible for ensuring that the devices are used only in authorized locations and only in the manner authorized. United States Sailing Association, Inc. is aware that other stations may be licensed on these frequencies and if any interference occurs, the facilities will be subject to immediate shut down and operation will not recommence unless and until the interference is resolved to the satisfaction of all licensees.

Kindly address any questions about this application to undersigned counsel:

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