



Radio Technical Commission for Maritime Services

1800 N. Kent St., Suite 1060
Arlington, Virginia 22209-2109
www.rtc.org hq@rtc.org

Telephone: +1-703-527-2000

Telefax: +1-703-351-9932

Before the Federal Communications Commission

Washington, D. C.

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

| | | |
|---|---|------------------------|
| In the Matter of |) | |
| |) | SAT-MOD-20101118-00239 |
| LightSquared Subsidiary LLC |) | Call Sign: S2358 |
| |) | |
| Request for Modification of its Authority for an Ancillary Terrestrial Component |) | 13 June 2011 |

**COMMENTS OF THE RADIO TECHNICAL COMMISSION FOR MARITIME
SERVICES (RTCM)**

The Radio Technical Commission for Maritime Services (RTCM) respectfully submits these Comments in response to the a conditional waiver of the Ancillary Terrestrial Component (ATC) “integrated service” rule granted to LightSquared Subsidiary LLC on January 26, 2011 (DA 11-133).

The RTCM is a non-profit organization whose objectives include studying and preparing reports on maritime electronic navigation and telecommunications practices. Our focus is on needs and technologies with a view toward improving efficiency and capabilities of maritime electronic navigation and telecommunications services, suggesting ways to keep rules and regulations to the minimum essential for effectiveness, and making recommendations on important issues.

Established by the U.S. government in 1947 to support technical decision-making in the area of maritime radiocommunications, RTCM is now a membership organization that supports and encourages needed improvements in maritime communications and electronic navigation.

RTCM opposes any authorization for LightSquared to operate an Ancillary Terrestrial Component (ATC) which would degrade the services of the Global Positioning System (GPS) - During its annual meeting the week of May 16, 2011, the RTCM membership received an update on the testing that took place in April 2011 in New Mexico, to determine the effect that operation of LightSquared's ATC would have on the GPS system. Although we do not have access to the final report at this time, it is apparent that out-of-band emissions of a LightSquared ATC base station have the potential to completely overpower GPS satellite signals, which are many orders of magnitude lower in strength at the earth's surface than the ATC emissions, even at some distance from an ATC base station. GPS is a service that has become vital to our national security, our economy, and our transportation safety. Although RTCM understands and supports efficient spectrum use as well as efforts to improve wireless broadband availability, it must be done in a way that does not degrade GPS service.

RTCM's primary interest is in maritime safety of navigation. The GPS system has become essential to safe maritime navigation in the ports of the United States. Now that the Coast Guard has shut down the Loran-C system and suspended deployment of the eLoran system, GPS is the only way for ships to meet the international treaty requirement for a global navigation satellite system.¹ The U.S. Coast Guard provides a supplemental Differential GPS (DGPS) service in

¹ Regulation V/19.2.1.6 of the International Convention for the Safety of Life at Sea (SOLAS) requires large commercial ships on international voyages to be equipped with a global navigation satellite system or terrestrial radionavigation system receiver or equivalent. GPS and the similar Russian GLONASS system are the only systems

U.S. ports that improves the accuracy of GPS positions to the extent that normal port operations can continue in conditions of extremely limited visibility. A strong ATC signal in the vicinity of the Coast Guard DGPS reference stations would deny that service to mariners, resulting in severe safety and economic consequences. Other DGPS systems serve surveying, geodesy, and precision agriculture applications, which could be similarly disrupted by ATC signals.²

In the past decade, a new maritime navigation service known as the Automatic Identification System (AIS) has come into use. Not only does AIS contribute to navigational safety, it has become a cornerstone in the nation's post 9/11 maritime security system. AIS is completely dependent upon GPS service. The commercial maritime industry is also in an internationally mandated conversion to navigation by Electronic Chart Display and Information Systems (ECDIS), also wholly dependent upon GPS.³

If LightSquared is eventually authorized to operate an L-band ATC system, it is essential that the system be designed and operated so as not degrade GPS functions.

Sincerely,

A handwritten signature in black ink, appearing to read "R L Markle". The signature is written in a cursive, slightly slanted style.

R. L. Markle
President

currently available that meet this requirement. GLONASS frequencies and signal strength are similar to GPS, and its service would be similarly degraded in the presence of a powerful ATC signal.

² RTCM publishes a series of standards that are used globally for DGPS systems.

³ Regulations V/19.2.10 and 19.2.11 of SOLAS requires large commercial ships on international voyages to be equipped with ECDIS systems, in a graduated implementation schedule that runs to 2018.