UNAVCO

6350 Nautilus Drive
Boulder, Colorado
80301-5553

T 303.381.7500
F 303.381.7501
www.unavco.org
support@unavco.org

1 August, 2011

The Honorable Julius Genachowski
Chairman, Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: FCC File No. SAT-MOD-20101118-00239

Dear Mr. Chairman,

UNAVCO is a member-governed university consortium, an organization that is uniquely positioned to advance and support geodesy community science goals. In addition to over 90 US universities, UNAVCO supports more than 65 organizations as associate members that share UNAVCO's mission and benefit from its programs and services. The National Science Foundation (NSF) and NASA fund UNAVCO through cooperative agreements.

UNAVCO was formed in 1984 by earth science and atmospheric researchers who pioneered the usage of specialized Global Positioning System (GPS) hardware for high-precision studies. In the 27 years since, the UNAVCO Community has used GPS to make numerous discoveries regarding the nature of the solid earth and atmosphere, including the fundamental understanding of the processes of plate tectonics, earthquakes, volcanic eruptions and significant weather events. UNAVCO operates or supports approximately 2000 high-precision GPS monitoring stations in the U.S., including the 1100-station Plate Boundary Observatory (PBO), the geodetic component of the NSF's's EarthScope Project in which $100 million was invested for construction between 2003 – 2008; taken together with subsequent operations and maintenance and other UNAVCO projects to date, an investment of $190,000,000 of taxpayer investment since 2003 is at stake.

UNAVCO is gravely concerned that the proposed use of the Mobile Satellite Services (MSS) spectrum by LightSquared for terrestrial broadcasts would cause substantial interference to our GPS operations. Test results from both the FCC-ordered Technical Working Group and the NPEF show that the high-precision receivers that comprise our research network are rendered inoperable by high-powered transmissions in either of the two MSS bands proposed by LightSquared, and that no technology exist to mitigate this interference. The proposed solution of limiting LightSquared's operation to a lower power level than originally proposed, in only the "Lower 10" MHz MSS band, did not prove to be an acceptable alternative by the TWG or NPEF test groups. Test results clearly showed that even the newest state-of the art high-precision receivers that are in widespread use in our research networks would be unusable, not just a small number of legacy devices as claimed by LightSquared in their recommendations.

We therefore ask that you continue to reserve the MSS band for space-based transmissions only. LightSquared's proposed operation in the MSS spectrum will jeopardize GPS signals used by UNAVCO and its community over 27 years for the advancement of knowledge and natural hazards research.

Respectfully,

M. Meghan Miller

Dr. M. Meghan Miller
UNAVCO President
miller@unavco.org

Frederick Blume

Dr. Frederick Blume
Sr. Project Manager, Development and Testing
blume@unavco.org