



NATIONAL SCIENCE FOUNDATION

4201 Wilson Boulevard
Arlington, VA 22230

DIVISION OF ATMOSPHERIC AND GEOSPACE SCIENCES

July 19, 2012

Walter Johnston
Chief, Electromagnetic Compatibility Division
Office of Engineering and Technology
Federal Communications Commission
445 12th St SW
Washington DC 20554

Dear Mr. Johnston :

The Colorado Student Space Weather Experiment, CSSWE, CubeSat is built and will be operated by University of Colorado Boulder, CU, under a grant from the National Science Foundation (NSF). The award, AGS – 0940277, for this project in the amount of \$834,946 was granted to CU on December 7, 2009 with Professor Xinlin Li as the Principal Investigator. The project was one of two awards made that year out of 26 proposals submitted to NSF in response to the solicitation, NSF-09523 titled: CubeSat-based Science Missions for Space Weather and Atmospheric Research, issued on December 22, 2008. The selection was made by NSF following the completion of a highly competitive peer-review process. Consecutively, the CSSWE mission was selected by NASA for launch by the NASA CubeSat Launch Initiative and was offered a manifest as part of the auxiliary payload on the National Reconnaissance Office Launch-36 (NROL-36) set for launch on August 2nd, 2012. CSSWE is being launched on the National Reconnaissance Office's (NRO) L-36 mission as part of the Operationally Unique Technologies Satellite (OUTSat). OUTSat is a cooperative effort between the NRO and NASA to provide reliable, low cost access to space to demonstrate – and use - technologies that are critical to not only NASA and the NRO, but other DoD, intelligence, and government organizations. CSSWE is one of 11 such satellites on the NRO's OUTSat mission. The success of the government OUTSat mission will be gauged by the collective successes of each contributing element throughout their life-cycle

The NSF CubeSat program has made 8 awards over the 4 years it has been in existence. Two CubeSat missions are currently operating successfully on orbit, delivering unique and highly valuable measurements that have already led to notable scientific discoveries. The CSSWE together with the CINEMA CubeSat from University of Berkeley that is also part of OUTSat are the next two missions of the NSF program to get into orbit. The CSSWE, like all of the NSF CubeSat projects, is a high profile NSF project from which we expect outstanding scientific results. In addition, the CSSWE measurements pertain to understanding the impacts on the space environment from solar activity, something which is of widespread national interest and concern.

The NSF CubeSat projects all have extraordinary value in the education and training opportunities they offer to students and young professionals involved in the projects. For CSSWE this extends to including students in the operations of the satellite from a ground station at CU purchased and installed as part of the NSF-funded project. This is the reason for seeking an experimental license and amateur coordination for this project, unlike the CINEMA project

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that will utilize a NASA ground station for their operation and has been licensed by NSF through the NTIA.

We understand that due to the use of high melting point materials in the satellite, some parts are expected to survive re-entry and may present a small risk of human casualty. However, the casualty expectation calculations meet both NASA requirements and U.S. Government guidelines for re-entry safety. We now also understand that the FCC, in the exercise of its obligation to license in the public interest, concluded in 2004 that the existence of insurance policies to address debris risks is a relevant consideration in the public's interest when considering a license applicant's plans to dispose of its satellite by means of atmospheric reentry. Unfortunately, the project fully realized the need to address this requirement only very recently and may not, in spite of very considerable efforts by CU, be able to obtain insurance prior to Friday, July 20, 2012, when the NRO launch office will have to initiate preparations to seal CSWWE in the P-POD to prevent deployment on orbit. Losing the CSSWE CubeSat in this way would deal a big blow to the NSF CubeSat program as well as to the NASA and NRO programs that we collaborate with to launch university and student-built satellites. As documented above, there is substantial and widespread US federal government investment, involvement, and interest in the CSSWE project. The project is, in fact, funded by the federal government, and the CubeSat has gone through a rigorous review process by NASA and the NRO in order to be launched by the federal government (i.e.: the NRO). With this in mind, we respectfully request that FCC would consider waiving the insurance requirement for the CSSWE mission or issue the license with the stipulation that adequate insurance be obtained as soon as possible, so as to not jeopardize the NRO mission decision deadline of Friday, July 20, 2012. Your urgent attention to this matter is greatly appreciated.

Sincerely,



Richard Behnke
Head, Geospace Section

CC:

Anne E. Sweet, NASA Launch Services Program Executive
Travis G. Willcox, Maj, USAF, NRO/OSL Advanced Programs Division
David C. Williamson, NRO CubeSat Program Office