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# George Mason University

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

June 14, 1991

Ms. Donna R. Searcy, Secretary  
Office of the Secretary  
Federal Communications Commission  
Room 222  
1919 M Street, N.W.  
Washington, DC 20054

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JUN 19 1991

RE: File No. 22-DSS-MP-90(20)  
DOMESTIC FREQUENCIES DIVISION  
SATELLITE RADIO BRANCH

Dear Ms. Searcy:

This letter is to express comments in support of Orbital Communications Corporation's Amended Application for authority to construct a low-orbit satellite communication system.

The ORBCOMM proposal is of pioneering nature due to technical innovations that will be implemented in the satellite communication system. The key feature of the system resulting from these innovations will be the low cost and weight of portable and mobile terminals. By using a hand-held terminal of approximately the size of a pocket calculator, the subscriber will be able to exchange brief alphanumeric messages with any other location in the U.S., and to determine the geographical position on the ground. The affordability of such service will make it very popular among the motorists, small boat owners, forestry and environmental workers, hikers, skiers, and others. In particular, the emergency service capability in remote areas provided by this system will be of incalculable value to many people.

The geographic position determination capability offered by the system will be based on a calculation method much different from the one currently used by GPS or other systems involving geo-synchronous high-orbit satellites. This will result in a simpler and less expensive microelectronic circuitry serving this application. As a result, the cost of the position determination device will be a fraction of those currently used, thus enhancing the affordability of the service.

Other potential uses of the system include certain environmental data collections via satellite, and data collection on automobile traffic in certain heavily congested areas and corridors, such as the system of interstate highways between Washington and New York.

Other new areas of application are very likely to emerge once the system is put in service.

Myself, my colleagues and graduate students here at the School of Information Technology of George Mason University are greatly interested in the new possibilities offered by the system's concept. We would very much like to perform experiments with digital data communications via ORBCOMM's satellites and do research on further improvements of the design of the position determination system. The concept of portable, low cost two-way satellite communication devices is very attractive. It is likely to generate a great deal of interest in the educational and research community. It may also contribute to enhancing U.S. competitiveness in high technology areas.

I thus respectfully recommend an early approval of the above mentioned Amended Application by Orbital Communications Corporation.

Sincerely yours,

Andre Z. Manitius  
Professor  
Electrical and Computer Engineering Department  
and  
University Coordinator for GMU  
Virginia Space Development Consortium  
Virginia's Center for Innovative Technology

cc. Alan L. Parker, President  
Orbital Communications Corporation