January 24, 2003

Via Electronic Filing and Hand Delivery
Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Mobile Satellite Ventures Subsidiary LLC
***Ex Parte* Presentation**
IB Docket No. 01-185 (Electronic Filing)
File No. SAT-ASG-20010302-00017 et al. (Hand Delivery)

Dear Ms. Dortch:

Mobile Satellite Ventures Subsidiary LLC ("MSV") hereby submits the following in response to the January 23, 2003 *ex parte* filing of Inmarsat Ventures plc ("Inmarsat").

1. Appropriate threshold for interference into Inmarsat.

MSV has described six percent $\Delta T/T$ as an extremely conservative threshold for protecting Inmarsat from potential interference from ATC operations.

Inmarsat's response does nothing to establish that it will be harmed by the very small potential rise in its noise floor that might be caused by such operations. Inmarsat fails to make any showing that its operations cannot tolerate a much greater level of sharing. Inmarsat concedes that in coordinating the operation of its legacy system, which operates with much less link margin than will characterize its newer satellites, it "normally allows for about a 25% increase in its noise floor due to interference from all external interference sources." Inmarsat January 23rd *ex parte* at 2. While MSV does not accept that Inmarsat's legacy systems cannot tolerate even more than 25% $\Delta T/T$, its statement demonstrates that a six percent increase is indeed relatively modest even for the legacy systems.

If Inmarsat's legacy satellites, which are theoretically more vulnerable to a potential rise in the noise floor because of their smaller link margin, can tolerate a 25% $\Delta T/T$, then for its next-generation satellites, with their much higher link margins, a six percent rise in the noise floor will be truly insignificant. The next generation systems will have significantly greater link margins (on the order of 6 dB for Inmarsat-4 and 10 dB for MSV) and thus will be better able than legacy systems to accommodate a greater increase in their noise floors. In part this is because next-generation systems (including Inmarsat-4) are being designed and built with significantly larger antennas and more resilient waveforms, incorporating state-of-the-art "convolutional" and/or

"turbo" forward error correction encoding, thus providing improved performance in the presence of interference and other channel degradations.

Inmarsat cites the number of MSS systems operating in the L-band worldwide, but there are only three systems of any consequence with which it coordinates spectrum in the Western Hemisphere—those of the United States (MSV), Canada, and Mexico. Inmarsat speculates that there may be additional ATC systems, but that is just speculation; moreover, it is extremely unlikely that any such additional systems will operate on the same frequencies on which MSV and Inmarsat operate. Inmarsat raises another red herring when it mentions that MSV's own interference analyses have shown that its ATC will not cause more than a one percent increase in Inmarsat's noise floor. The fact that MSV's analysis shows only a one percent increase in equivalent thermal noise degradation to Inmarsat does not mean that MSV advocates that as the appropriate interference protection threshold.

2. Technical performance of handset antennas.

Inmarsat argues that it needs more details regarding MSV's planned system architecture. All MSV has requested of the Commission is that it take into account the widely understood radiation pattern contours of hand-held mobile terminal equipment. To the extent the Commission is explicit about its assumptions regarding the ATC terminal radiation patterns, MSV is prepared to accept the obligation to demonstrate that its equipment is consistent with the Commission's assumptions. If MSV's equipment is worse than the Commission's assumptions, MSV presumably would face greater restrictions. By the same token, however, to the extent that MSV's equipment is better than the Commission's assumptions, MSV should have the restrictions relaxed.

3. Applicability of limits to non-co-channel and lesser-co-channel operations.

Inmarsat argues that deployment of ATC may be an impediment to increased efficiency and sharing in the L-band. MSV has shown that it is the operation of the satellite systems and not the ATC that is by far the more significant factor in determining sharing in the L-band. The Commission's decision to permit MSS licensees to deploy ATC will help immensely in MSV's effort to launch more efficient spot-beam satellites (with higher power and more spot-beams than Inmarsat's delayed fourth generation satellites) and will improve the potential for such sharing. An increase in sharing will only come about, however, after both MSV and Inmarsat have significantly shifted to their next-generation satellites and reduced their operation of existing user

equipment. Even then, significant geographic separation will continue to characterize any co-channel operations and this will continue to permit significant ATC operations within whatever interference protection threshold the Commission establishes.

Very truly yours,

Peter D. Karabinis, Ph.D.
Vice President and Chief Technical Officer

Lon C. Levin
Vice President

cc: Chairman Michael Powell
Commissioner Kathleen Q. Abernathy
Commissioner Michael J. Copps
Commissioner Kevin J. Martin
Commissioner Jonathan S. Adelstein
Bryan Tramont
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