

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the Matter of)	
)	
Mobile Satellite Ventures Subsidiary LLC)	
)	
Application for Minor Modification of Space Station License (AMSC-1))	File No. SAT-MOD-20090429-00047
)	
Application for Minor Modification of Space Station License (MSV-1))	File No. SAT-MOD-20090429-00046
)	
Application for Minor Modification of Blanket License to Operate Mobile Earth Terminals (MSAT-1))	File No. SES-MOD-20090429-00536
)	

CONSOLIDATED OPPOSITION OF INMARSAT GLOBAL LTD.

Inmarsat Global Ltd. (“Inmarsat”) opposes the Petition to Deny of Amtech Systems LLC (“Amtech) and responds to the Comments of SkyWave Mobile Communications, Corp. and SkyWave Mobile Communications, Inc. (together, “SkyWave”) in these proceedings.

A. Introduction.

In the above-referenced applications (the “Applications”), SkyTerra Subsidiary LLC (“SkyTerra”) seeks to modify its Ancillary Terrestrial Component (“ATC”) authority to allow it to implement the increased ATC deployment flexibility made possible by the December 20, 2007 international satellite coordination agreement among Inmarsat, SkyTerra and SkyTerra (Canada) Inc. (“SkyTerra Canada”) (the “Coordination Agreement”). The SkyWave and Amtech pleadings each express concern that the enhanced ATC operating parameters enabled by the Coordination Agreement will increase the potential for ATC base station transmissions in

urban and suburban areas to result in “overload” of, and intermodulation effects into, their Inmarsat land mobile receivers.

As an initial matter, it is important to recognize that the Coordination Agreement not only allows the increased flexibility for ATC implementation reflected in the Applications, but also provides significant benefits to Inmarsat and its customers (including Amtech and SkyWave). Namely, the Coordination Agreement (i) substantially increased Inmarsat’s ability to reuse the scarce spectrum resource on its fleet of spacecraft in certain areas, (ii) allowed the new Inmarsat-4 fleet to operate at its full technical potential, (iii) enabled the reconfiguration of the Inmarsat fleet, with the resulting improved geographic coverage of the United States, (iv) facilitated both the grant of U.S. market access for the reconfigured Inmarsat fleet and the authorization of the new class of BGAN services, and (v) resolved longstanding spectrum-related disputes between Inmarsat, SkyTerra and SkyTerra Canada. By achieving these results, the Coordination Agreement provided much-needed, long-term certainty for Inmarsat customers.

SkyTerra is filing a Consolidated Opposition that clarifies its ATC technical parameters and deployment plans, and effectively addresses the interference concerns that SkyWave and Amtech raise about the deployment of ATC under the Coordination Agreement. SkyTerra’s explanation about (i) expected ATC signal propagation in urban and suburban environments, and (ii) the inherent challenges SkyWave and Amtech face when operating in the urban and suburban areas where ATC base station are likely to be located, should make clear why any remaining interference concerns are not based on “operational environment” considerations.

To the extent that SkyTerra’s clarifications do not resolve SkyWave’s and Amtech’s technical concerns, Inmarsat is committed to working with its customers to share

information on the technical issues raised, and to develop solutions to address those concerns. However, and as detailed below, Commission precedent provides that Amtech's and SkyWave's issues simply do not provide any basis to withhold favorable action on the Applications. To the contrary, the Commission expects affected MSS operators to work cooperatively to resolve such concerns.

B. Overload of Inmarsat Land Mobile Receivers.

Amtech's and SkyWave's concerns about the potential for ATC base station transmissions to result in an "overload" of their Inmarsat receivers are matters to be addressed in the marketplace, and not before the Commission. The Commission has explained that it generally does not regulate the susceptibility of receivers to the effect of "overload" caused by third party transmissions on nearby frequencies: "Rather, we rely on the marketplace – manufacturers and service providers – to decide how much susceptibility to interference will be acceptable to consumers."¹ The policy reason for this approach is that the Commission generally does "not limit one party's ability to use the spectrum based on another party's choice regarding receiver susceptibility."²

Moreover, the Commission recognized that MSS satellite signals are often obstructed by buildings and the environment in general, and that Inmarsat terminals would not commonly be used in the vicinity of ATC base stations.³ As a result, the Commission concluded that it would be "inefficient and unnecessary for us to limit MSS ATC deployment at higher

¹ *Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands, Memorandum Opinion and Second Order on Reconsideration*, 20 FCC Rcd 4616 (2005), ¶ 56 ("Second Order on Reconsideration").

² *Id.*

³ *Id.*

power levels” based on concerns about overload of Inmarsat receivers, particularly considering that new types of Inmarsat receivers could be deployed that are “less susceptible to [overload] interference from transmissions on nearby frequencies.”⁴

The Commission acknowledged (as both Amtech and SkyWave indicate) that some consumers may wish to communicate with the Inmarsat MSS system even when they are located in urban and suburban areas near ATC base stations.⁵ The solution the Commission adopted was not (as Amtech and SkyWave now urge) to preclude higher-powered ATC base station deployment based on concerns about overload interference into Inmarsat receivers. Rather, consistent with its policy of not regulating the susceptibility of receivers to overload interference, the Commission relied on commercial solutions. Namely, the Commission determined that adequate approaches existed to support such urban and suburban MSS operations, ranging from providing those users with “receivers that are less susceptible to interference” to “directing MSS traffic to frequencies that are adequately removed from higher-power ATC transmissions.”⁶ Moreover, the Commission expected that Inmarsat and MSV (now SkyTerra), would accommodate large-scale ATC operations in their coordination negotiations for next-generation satellite deployment.⁷

⁴ *Id.* The one exception the Commission made to its general policy regarding receiver susceptibility to overload was to protect search and rescue (SARSAT) receivers (which use the 1544-1545 MHz band for distress and safety-related communications) from overload effects by constraining ATC base station power levels when operating within ± 2.5 MHz of the 1544-1545 MHz band. *Id.* at ¶57. SkyTerra has proposed to protect SARSAT receivers by increasing the coordination distance from SARSAT receivers and thus provide the same level of protection currently afforded by Commission rules. Application Narrative at 15.

⁵ *Second Order on Reconsideration* at ¶ 57.

⁶ *Id.*

⁷ *Id.*

As the Commission predicted would occur, in late 2007, Inmarsat and SkyTerra completed the long-term Coordination Agreement that (i) resolved their longstanding spectrum dispute, (ii) resulted in the coordination of their current and next-generation satellite fleets covering North America, (iii) re-banded the L-Band into contiguous segments that better support growing broadband needs, and (iv) provided for increased ATC deployment flexibility while at the same time protecting current and future MSS operations. As Inmarsat and SkyTerra previously have explained, the Applications are consistent with the technical parameters agreed in the Coordination Agreement.

The Coordination Agreement contemplated solutions to manage concerns with overload from nearby ATC base stations. Inmarsat appreciates SkyWave's willingness to assign engineering resources to work with SkyTerra and others to develop acceptable solutions to the concerns raised in the pleadings.⁸ In fact, one of the benefits of the recent sale of certain Amtech manufacturing assets to SkyWave is that doing so will facilitate the development of new and innovative Inmarsat receivers for the type of land mobile customers that Amtech and SkyWave have identified in this proceeding.⁹ Moreover, because the types of receivers at issue often require repair and maintenance during their operational lives, it may be that Amtech and SkyWave in any event will be repairing or replacing those existing terminals before the large-scale deployment of ATC.

⁸ SkyWave Comments at ii.

⁹ See generally Application of Amtech Systems LLC and SkyWave Mobile Communications, Corp. to Assign Call Signs E030120 and E990316 from Amtech Systems LLC to SkyWave Communications, Corp., SES-ASG-20090403-00406 (withdrawn June 29, 2009).

C. Intermodulation Effects on Inmarsat Land Mobile Receivers.

The Amtech and SkyWave concerns about ATC base station intermodulation effects on Inmarsat land mobile receivers are addressed by the same Commission precedent. The Commission has determined that intermodulation effects from ATC operations into Inmarsat receivers are matters to be addressed by inter-system coordination arrangements between satellite operators. Specifically, the Commission provided:

To resolve third-order intermodulation problems, we require any MSS/ATC operator to notify the affected MSS operator in any case where a single base station or multiple base stations will transmit on frequencies that can produce third-order intermodulation products that overlap a frequency assigned to the affected MSS operator in the 1525-1559 MHz band, where such transmissions will result in a signal level of -70 dBm or higher for the combined signals at the output of the affected MSS operator's terminal's receiving antenna. *The MSS/ATC operator and the affected MSS operator must work together to resolve the interference problem.*

Second Order on Reconsideration at ¶ 59 (emphasis supplied).

Thus, contrary to what SkyWave suggests,¹⁰ intermodulation effects are in fact a matter that the Commission specifically deferred to coordination between L-Band MSS satellite operators. As SkyTerra explains in its Opposition,¹¹ Amtech is incorrect in asserting that the use of wider ATC channels would eliminate the effectiveness of careful selection of ATC base station frequencies to resolve any intermodulation issues that may arise.¹²

* * * * *

Contrary to what SkyWave asserts, grant of the Applications would in no way undermine the purpose of the ATC Rules.¹³ As detailed above, the Applications are fully

¹⁰ SkyWave Comments at 6-7.

¹¹ SkyTerra Opposition, Technical Appendix.

¹² Amtech Petition at 7-8.

¹³ SkyWave Comments at 8.

consistent (i) with Commission policy and precedent, and (ii) with the Coordination Agreement, which provides for more efficient use of the limited spectrum resource both by Inmarsat's satellite fleet, and by SkyTerra's MSS/ATC network. Inmarsat stands ready to work with Amtech and SkyWave to share information on the technical issues raised in their pleadings, and to develop effective solutions to address their concerns.

For these reasons, the concerns expressed by SkyWave and Amtech do not provide any basis for withholding favorable action on the Applications.¹⁴ Inmarsat therefore urges the Commission to grant SkyTerra's Applications, on the terms that SkyTerra proposes.

Respectfully submitted,

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¹⁴ There is no need to disclose the confidential aspects of the Coordination Agreement to SkyWave and Amtech. *Cf.* SkyWave Comments at 7, n. 11; Amtech Petition, Technical Annex at 21. As detailed above, the overload and intermodulation concerns that SkyWave and Amtech raise are not valid bases for objecting to the Applications. Moreover, Commission precedent is to maintain the confidentiality of such international spectrum coordination agreements. *See Robert J. Butler*, 6 FCC Rcd 5414, at ¶¶ 12-14 (1991); *Comsat Corporation d/b/a Comsat Mobile Communications, et al.*, 16 FCC Rcd 21661, at ¶¶ 110-11 (2001).

CERTIFICATE OF SERVICE

I, Uchenna Anikwe, hereby certify that on this 23rd day of July 2009, I served a true copy of the foregoing by first-class United States mail, postage prepaid, upon the following:

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