### Before the FEDERAL COMMUNICATIONS COMMISSION Washington, DC 20554

In the matter of	)	
	)	
MVS USA, Inc.	)	File No. SES-MFS-20051123-01634
Application for Blanket License to Operate	)	(Call Sign E050348)
Mobile Earth Terminals with Inmarsat 4F2 at	)	
52.75°W	)	

# **OPPOSITION OF INMARSAT VENTURES LIMITED**

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# **OPPOSITION OF INMARSAT VENTURES LIMITED**

Inmarsat Ventures Limited ("Inmarsat") hereby submits its Opposition to the Petition to Hold in Abeyance of Mobile Satellite Ventures Subsidiary LLC ("MSV") filed in the above-captioned proceeding.<sup>1</sup>

### I. INTRODUCTION AND SUMMARY

This proceeding involves a request by MVS USA, Inc. ("MVS") to offer

Inmarsat's Broadband Global Area Network ("BGAN") mobile satellite service ("MSS") to the United States. BGAN (which is already available in Europe, Africa, and parts of Asia) enables mobile broadband service to notebook-sized terminals that are one-third the price, size and weight of the smallest terminals in use today with the Inmarsat satellite system. BGAN will facilitate the extension of broadband to parts of the United States that are currently underserved or unserved by terrestrial networks, offering Internet access, high-speed data transmissions, virtual private networking, and voice communications, among other communications services.

<sup>&</sup>lt;sup>1</sup> In order to minimize repetition of the arguments made throughout the numerous I-4 related proceedings, Inmarsat incorporates by reference the following pleadings in their entirety: Inmarsat Ventures Limited, Opposition, File No. SES-LFS-20050930-01352 *et al.* (filed Dec. 7, 2005) ("Inmarsat Telenor BGAN Opposition") (opposing MSV's Petition regarding Telenor's application to provide BGAN over I-4) and Inmarsat Ventures Limited, Consolidated Response, File No. SES-STA-20051216-01756 *et al.* (filed Jan. 6, 2005) ("Inmarsat E&E STA Response") (responding to MSV objection to requests of four Inmarsat United States distributors for STA to continue to provide existing services using I-4).

Thus, BGAN promises to be an invaluable tool for public officials, the military, law enforcement, public safety officials, and first responders, among others, in their efforts to protect and promote United States homeland security. BGAN will provide essential services in support of United States relief efforts when natural disasters, terrorism, or other events disrupt the terrestrial communications network, by restoring connectivity, and by enabling high speed data communications that otherwise may not be supported by terrestrial networks.

BGAN will be provided over Inmarsat's I-4 satellite that was launched on November 8, 2005, and which began commercial service to the United States on January 22, 2006. Following further testing of the BGAN infrastructure, BGAN service is expected to be available in the United States early in the second quarter of this year. Thus, prompt approval of the Application is essential to allow Inmarsat and MVS to bring these technological innovations and essential services to United States commercial and government users, enhancing their options for communications services, and increasing competition.

No one opposes the grant of authority to provide BGAN. The one entity to comment, MSV, admittedly seeks only to delay the provision of BGAN. Specifically, MSV seeks to foreclose use of I-4 until a new L-Band spectrum realignment is effectuated that unlocks the "key" to MSV's full utilization of the two uncoordinated, next-generation spacecraft on which MSV hopes to provide a hybrid MSS/ATC broadband service in as soon as three years.<sup>2</sup>

See MSV Petition at 2-3, 6 ("among the keys" to exploiting the full capabilities of MSV's new L-Band satellite, planned to be launched in 2009, is "access to contiguous spectrum blocks" for "integrated satellite-terrestrial networks"); see also, e.g., Mobile Satellite Ventures Subsidiary LLC, Petition to Hold in Abeyance or Grant with Conditions, File No. SES-LFS-20050930-01352 et al., at 1 (filed Nov. 23, 2005) ("MSV Telenor BGAN Petition") (asking the Commission to hold the applications in abeyance "until the conclusion of a coordination agreement that results in a more efficient assignment of L band spectrum . . . including the assignment of contiguous and wider frequency blocks."); Mobile Satellite Ventures Subsidiary LLC, Petition to Hold in Abeyance or Grant with Conditions, File No.

The L-Band is shared by twenty different spacecraft around the world, and a change in how the spectrum is used in one region of the world (*i.e.*, over North America) can have profound effects on L-Band systems that operate in Europe, Asia and Africa, and require the consent of those systems. Thus, MSV essentially asks that Inmarsat's BGAN service be withheld from the United States until a yet-unspecified rechannelization plan is developed with these approximately twenty L-Band spacecraft.

Inmarsat supports the goal of improving spectrum efficiency, and therefore looks forward to MSV's retiring its current spacecraft, which require much higher-powered earth terminals than are necessary today, and which therefore impede greater sharing of the L-Band. Inmarsat also believes that changes in the way that the L-Band is shared on a global basis could provide benefits for everyone involved. But the solution is nowhere near as simple or quick as MSV makes it seem: (i) Inmarsat cannot unilaterally require a host of other operators to change the way they use the L-Band, simply to accommodate MSV's business needs, (ii) it is not realistic to expect (as MSV suggests) that such a global realignment of the L-Band could occur in the next six months,<sup>3</sup> and (iii) this is not the forum for addressing those matters in any event.

SES-LFS-20051911-01396 *et al.*, at 1 (filed Nov. 23, 2005) ("MSV FTMC BGAN Petition") (same); Mobile Satellite Ventures Subsidiary LLC, Petition to Hold in Abeyance or Grant with Conditions, File No. SES-LFS-20050826-01175 *et al.*, at 1 (filed Oct. 28, 2005) ("MSV Stratos BGAN Petition") (same).

<sup>3</sup> MSV Petition at 19.

More fundamentally, despite having had *eight* "bites at the apple,"<sup>4</sup> MSV still does not provide any technical analysis to support its assertions the I-4 presents an interference threat. To the contrary, as Inmarsat has explained before, there will be no interference issue with Inmarsat's provision of BGAN services over I-4 because, in the absence of a new spectrum sharing agreement among the L-Band operators, Inmarsat has committed to provide BGAN within the technical envelope under which Inmarsat has successfully coexisted with MSV for almost a decade without causing harmful interference. Moreover, (i) the spectral power density of the BGAN service will be no greater than the levels Inmarsat has been employing for United States service, (ii) Inmarsat will use the same portions of the L-Band it has been using to serve the United States, and (iii) Inmarsat has committed to operating (as MSV itself must operate) on a non-harmful interference basis.

The absence of a spectrum sharing agreement in the L-Band is no barrier to authorizing new, competitive MSS services, even over next-generation L-Band spacecraft that have not been coordinated.<sup>5</sup> Just last year, the Commission authorized MSV *on two separate* 

<sup>&</sup>lt;sup>4</sup> See (1) MSV Petition (current proceeding); (2) MSV Telenor BGAN Petitition; (3) MSV FTMC BGAN Petition; (4) MSV Stratos BGAN Petition; (5) Mobile Satellite Ventures Subsidiary LLC, Petition to Hold in Abeyance or Grant with Conditions, File No. SES-MFS-20051123-01626 et al. (filed Jan. 6, 2006) ("MSV Telenor E&E Petition"); (6) Mobile Satellite Ventures Subsidiary LLC, Petition to Hold in Abeyance or Grant with Conditions, File No. SES-MFS-20051122-01614 et al. (filed Jan. 6, 2006) ("MSV Stratos E&E Petition"); (7) Mobile Satellite Ventures Subsidiary LLC, Petition to Hold in Abeyance or Grant with Conditions, File No. SES-MFS-20051207-01709 et al. (filed Jan. 20, 2006) ("MSV Skywave E&E Petition"); (8) Comments of Mobile Satellite Ventures Subsidiary LLC, File No. SES-STA-20051216-01760 et al. (filed Dec. 28, 2005) ("MSV E&E STA Comments").

<sup>&</sup>lt;sup>5</sup> See, e.g., Inmarsat Telenor BGAN Opposition at 3-9; Opposition of Inmarsat Ventures Limited, File No. SES-LFS-20051911-01396 *et al.*, at 3-9 (filed Dec. 7, 2005) ("Inmarsat FTMC BGAN Opposition") (opposing MSV's Petition to Hold in Abeyance or Grant with Conditions FTMC's application to provide BGAN over I-4); Response of Inmarsat Ventures Limited, File No. SES-LFS-20050826-01175 *et al.*, at 7-8 (filed Nov. 10, 2005) ("Inmarsat Stratos BGAN Opposition") (opposing MSV's Petition to Hold in Abeyance or Grant with

*occasions* to deploy new broadband services with carriers *twenty-five* times larger than the BGAN carriers, and using spacecraft that MSV touts as far more powerful than I-4.<sup>6</sup> The Commission did not condition MSV's authorization on achieving coordination with Inmarsat or any other L-Band operator. Consistent with its L-Band spectrum policy that has existed for over six years, the Commission simply authorized MSV to operate on a non-harmful interference basis in the absence of an L-Band coordination agreement.

Withholding operating authority until MSV gets a new coordination agreement that rechannelizes the L-Band to accommodate its uncoordinated, next-generation spacecraft<sup>7</sup> would be inconsistent with the Commission's long-established spectrum policy in the L-Band. Moreover, it would contravene United States WTO obligations to use the Commission's licensing processes to provide MSV with leverage in international spectrum negotiations,<sup>8</sup> or to treat Inmarsat differently than the Commission treated MSV *twice* last year when it authorized MSV to launch uncoordinated L-Band spacecraft that are not subject to any such condition.

For these reasons, Inmarsat respectfully requests that the Commission promptly authorize BGAN service without any conditions, other than the customary condition that, in the absence of an L-Band spectrum sharing agreement, operations must be conducted on a nonharmful interference basis.

Conditions Stratos's application to provide BGAN over I-4); Inmarsat E&E STA Response at 7-11.

<sup>&</sup>lt;sup>6</sup> See Inmarsat Telenor BGAN Opposition at 22-24.

<sup>&</sup>lt;sup>7</sup> See MSV Petition at 2.

<sup>&</sup>lt;sup>8</sup> See, e.g., SatCom Systems, Inc., et al., 14 FCC Rcd 20798, 20813 ¶ 30 (1999) ("TMI Market Access Order") ("AMSC requests that we keep foreign carriers out of the U.S. market long enough for AMSC to use its monopoly power over U.S. customers to increase its traffic so significantly that it justifies its increased spectrum assignment.").

#### II. THERE IS NO INTERFERENCE ISSUE

#### A. Provision of BGAN Over I-4 Will Not Increase Interference to MSV

MSV does not provide a technical demonstration that the provision of BGAN over I-4 would adversely affect the interference environment in the L-Band under which MSV and Inmarsat currently operate and share the band. Thus, MSV does not meet its burden to prove that grant of requested authority is *prima facie* contrary to the public interest,<sup>9</sup> and to substantiate its interference allegations with more than mere speculation.<sup>10</sup> Commission precedent is clear that neither Inmarsat nor MVS needs to prove a negative—that there will *not* be interference.<sup>11</sup>

In contrast, the information that MVS and Inmarsat have provided establishes a more than adequate basis for authorizing BGAN. MVS has provided a full technical description of the services that will be provided over I-4, including all of the technical information required by Part 25 of the Commission's Rules. Furthermore, Inmarsat confirms here that the proposed services will (i) operate within the same technical envelope as Inmarsat has successfully coexisted with MSV for almost a decade, and (ii) use the same portions of the L-Band that Inmarsat has been using to serve the United States for years. In any event, contrary to MSV's view,<sup>12</sup> "the burden of resolving potential interference does not rest solely on one party."<sup>13</sup> As explained below, MSV has not responded to Inmarsat's repeated efforts to coordinate with MSV.

<sup>&</sup>lt;sup>9</sup> 47 C.F.R § 25.154(a)(4).

<sup>&</sup>lt;sup>10</sup> See, e.g., Revision of Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission Systems, 18 FCC Rcd 3857, 3909 ¶ 135 (2003).

AMSC Subsidiary Corporation, 8 FCC Rcd 4040, 4043 ¶ 17 (1993) (dismissing COMSAT's concerns about potential interference from the MSV (AMSC) into Inmarsat because "[a]pplicants . . . are not required to demonstrate non-interference to other satellite systems . . . as a condition to receiving a license").

<sup>&</sup>lt;sup>12</sup> MSV Petition at 11.

<sup>&</sup>lt;sup>13</sup> AMSC Subsidiary Corporation, 8 FCC Rcd at 4043 ¶ 17.

MSV's pejorative mischaracterization of I-4 as an "uncoordinated" and "rogue satellite"<sup>14</sup> ignores the facts and the governing law. As an initial matter, it was MSV who made the strategic decision not to renew or extend the last L-Band coordination agreement that expired in December 1999,<sup>15</sup> because MSV's predecessor (AMSC) decided that doing so might help it in international spectrum negotiations.<sup>16</sup> Despite the impasse that has existed in the L-Band ever since, and as detailed at length in Inmarsat's earlier pleadings,<sup>17</sup> Inmarsat has made considerable efforts to coordinate the full scope of I-4 operating parameters that potentially could be employed.<sup>18</sup> Inmarsat's latest efforts, last summer, were rebuffed because MSV wishes to address other commercial business first. MSV's unwillingness to fulfill its obligations under the Mexico City MOU, and coordinate in good faith with Inmarsat, provides Inmarsat no alternative but to continue to operate in accordance with long-standing Commission policy and ITU Radio Regulations. Specifically, Inmarsat has continued to operate within the same technical umbrella

<sup>&</sup>lt;sup>14</sup> MSV Petition at 9, 17 & n.33.

<sup>&</sup>lt;sup>15</sup> Contrary to what MSV argues, the fact that the parties to the MOU have operated on a non-harmful interference basis since the 1999 spectrum sharing agreement expired, and have periodically informed each other about changes in their operations, does not mean that the 1999 agreement "continues to effectively govern the operations of L band MSS providers." MSV Petition at 12. Without an agreement in place, there is no specific spectrum assignment to any party; thus, no party has anything to "loan" or "recall." That "there is no permanent assignment of specific spectrum to any L-band operator" was confirmed in the *COMSAT Order. See infra* at 14 & n.32.

<sup>&</sup>lt;sup>16</sup> See Brief for Appellee (FCC), AMSC Subsidiary Corporation v. FCC, Case No. 99-1513, p. 34-35 (D.C. Cir. May 17, 2000) (Public Copy) ("One is reminded of the man who killed his parents and asked for mercy because he was an orphan. As AMSC acknowledges in its brief . . . *it was AMSC that vetoed the proposed extension of the operating agreement*, despite the absence of any immediate interference problem, believing it was better strategically to force the issue of how to deal with the spectrum shortage.") (emphasis added).

<sup>&</sup>lt;sup>17</sup> See, e.g., Inmarsat E&E STA Response at 9-11.

<sup>&</sup>lt;sup>18</sup> Cf. MSV Petition at 18, n.33. Inmarsat similarly has made considerable efforts to coordinate the operation of its I-2 spacecraft at new orbital locations as well. See Inmarsat E&E STA Response at 9-11.

it last coordinated with MSV, and thereby has continued to provide the same level of interference

protection to MSV.

Since the expiration of the 1999 L-Band spectrum sharing agreement, Inmarsat

has successfully operated on a co-channel basis with MSV, without harmful interference,<sup>19</sup> in

accordance with ITU Radio Regulations<sup>20</sup> and in accordance with a long line of Commission

precedent.<sup>21</sup> Contrary to MSV's suggestion that the impasse at L-Band should preclude Inmarsat

from replacing its fleet with new state-of-the-art spacecraft, nothing in the ITU Radio

<sup>&</sup>lt;sup>19</sup> To Inmarsat's knowledge, there has not been any harmful interference from Inmarsat into MSV from high speed data or any other Inmarsat services, and Inmarsat and MSV have routinely resolved the typical, occasional operational issues that arise between spacecraft that share spectrum.

<sup>&</sup>lt;sup>20</sup> ITU Radio Regulation S4.4 (operations on a non-harmful interference basis).

<sup>21</sup> Consistent with ITU Radio Regulation S4.4 and Commission precedent, the relevant condition in the absence of an L-Band spectrum sharing agreement is that "harmful interference" not be caused, rather than "any" interference, as MSV mistakenly has suggested. See MSV E&E STA Comments at 2 n.2. Cf. TMI Market Access Order, 14 FCC Rcd at 20814 ¶ 33 & n.88 (referencing ITU Radio Regulation S4.4); COMSAT Corporation d/b/a Comsat Mobile Communications, et al., 16 FCC Rcd 21661, 21699 ¶ 72 & n.175 (2001) ("COMSAT Order") (referencing ITU Radio Regulation S4.2 [sic]); 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, 18 FCC Rcd 1962, 2065-2066 ¶ 213-214 (2003) (citing ITU Radio Regulation 4.4 as the standard for MSV's ATC operations); see also Mobile Satellite Ventures Subsidiary LLC, DA 05-1492, at ¶ 59 (rel. May 23, 2005) ("MSV 101° Order") (ordering L-Band operations on a non-harmful interference basis); Mobile Satellite Ventures Subsidiary LLC, DA 05-50, at ¶ 39 (rel. Jan. 10, 2005) ("MSV 63.5° Order") (ordering L-Band operations on a non-harmful interference basis); Mobile Satellite Ventures Subsidiary LLC, 19 FCC Rcd 4672, 4675 ¶ 8 (2004) (ordering operations on a non-harmful interference basis); Richtec Inc., 18 FCC Rcd 3295, 3301 ¶ 17 (2003) (providing for L-Band operations on a "non-interference basis," and specifying that the applicant "not cause harmful interference"); Outerlink, Inc., 17 FCC Rcd 12757, 12762-12763 ¶ 15 (2002) (ordering L-Band operations on a non-harmful interference basis); *Mobile Satellite Ventures Subsidiary* LLC, 17 FCC Rcd 12894, 12897 ¶ 10 (2002) (ordering L-Band operations on a non-harmful interference basis); National Systems & Research Co., 17 FCC Rcd 12011, 12015 ¶ 12 (2002) (specifying that the applicant "not cause harmful interference," and "notify its customers in the United States that its operations are on a non-harmful interference basis"); Vistar Data Communications, Inc., 17 FCC Rcd 12899, 12903 ¶ 18 (2002) (ordering L-Band operations on a non-harmful interference basis); Infosat Communications, Inc., 17 FCC Rcd 1610, 1615 ¶ 15 (2002) (ordering L-Band operations on a non-harmful interference basis).

Regulations suggests that Inmarsat may not operate such a new spacecraft within the envelope of technical parameters under which another Inmarsat spacecraft was coordinated and successfully has been operating.<sup>22</sup> To the contrary, ITU Radio Regulations provide that *no further coordination is required*, as here, when the technical characteristics of a "new or modified frequency assignment . . . are within the limits of those of a frequency assignment which has previously been coordinated."<sup>23</sup> Nor does the Mexico City MOU constrain the operation of a new spacecraft within the technical umbrella established for its predecessor.<sup>24</sup>

Inmarsat proposes to provide BGAN service, in the absence of a spectrum sharing agreement, in a manner that fits within the long-standing technical umbrella under which Inmarsat has coexisted with MSV. Paramount among the salient technical characteristics of the proposed BGAN service is the EIRP spectral density (the potential co-channel emissions generated toward MSV) which will not, either in the uplink direction or in the downlink direction, exceed the EIRP spectral density under which Inmarsat has successfully coexisted with MSV for almost a decade. MSV conveniently ignores this critical fact—how the available

<sup>&</sup>lt;sup>22</sup> Inmarsat's MSS network at 54° W.L. was coordinated with MSV and notified to the ITU for inclusion in the Master Frequency Register. The relocation of that network one degree further away from MSV has no adverse impact on MSV. *Cf.* MSV Petition at 9.

Inmarsat does not agree that the frequency assignments made in the now-expired 1999 spectrum sharing agreement were limited for use by, among other things, specific "earth stations and services (carrier types and emission levels)." *See* MSV Petition at 5. Nothing in the 1999 spectrum sharing agreement says any such thing. In any event, the fact that the 1999 spectrum sharing agreement has expired moots MSV's allegations about the scope of that agreement.

<sup>&</sup>lt;sup>23</sup> See ITU Radio Regulation, Appendix 5 (Rev. WRC-03), AP-5-2 at ¶ 6(b) (emphasis added).

<sup>&</sup>lt;sup>24</sup> See infra Section IV at 20-21 (demonstrating that I-4 meets the definition of "replacement satellite").

power on the spacecraft will be spread over the bandwidth of the BGAN carriers.<sup>25</sup> MSV also ignores the aspects of I-4 that make it more "interference friendly" than the I-3 satellite that it has replaced: (i) its narrower spot beams with steeper antenna side lobes reduce interference to adjacent areas, and (ii) its higher gain spot beams allow the use of terminals that radiate less than one-tenth the power of existing Inmarsat high speed data terminals.

Almost any spacecraft is theoretically capable of being used in a manner that could cause harmful interference to another spacecraft. Although Inmarsat's prior-generation I-3 satellite is capable of causing interference, Inmarsat constrained I-3's operations to ensure that harmful interference did not occur. Inmarsat will similarly constrain the operation of I-4 to comply with the existing technical envelope pursuant to which Inmarsat and MSV have coexisted for almost a decade. Absent coordination with MSV that enables I-4's full operational capabilities (which Inmarsat has sought to achieve, but which MSV has resisted),<sup>26</sup> Inmarsat does not intend to employ the full level of frequency reuse made possible by I-4's many spot beams.

Nor is there any issue with the 200 kHz bandwidth of the BGAN carriers. MSV does not demonstrate that the 200 kHz carriers used for BGAN are a problem, nor does MSV explain how those carriers would present any greater non-co-channel interference impact than *the 5 MHz carriers* that MSV has been authorized to employ on its two uncoordinated, next-generation spacecraft. The out-of-band emissions from BGAN service will comply with

See MSV Petition at 14. Thus, the higher power available on I-4 (relative to the I-3 spacecraft it has replaced) that MSV cites will not be used to increase EIRP spectral density. Rather, it will be used to support additional MSS users and to support the provision of BGAN along with the existing Inmarsat services that have already been transitioned over to I-4. In fact, the EIRP spectral density of the BGAN carriers will be no higher than the carriers with the highest EIRP density that Inmarsat has successfully employed for years.

<sup>&</sup>lt;sup>26</sup> Inmarsat E&E STA Response at 9-10.

Commission rules, and there is nothing in the ITU Radio Regulations requiring that "guard bands" be established to protect MSV from non-co-channel interference.<sup>27</sup>

MSV is likewise wrong that I-4 is more susceptible to interference than I-3. As an initial matter, the global beam on I-4 has the same receive sensitivity as the global beam on I-3. The regional and narrow spot beams on I-4 have better receive performance than I-3, as well as better side-lobe roll-off. Overall, the sensitivity of I-4 to interference from MSV's co-channel MSS operations is not much different than it is today with I-3. Inmarsat has taken these factors into account in managing the potential for interference into I-4, and thus is confident that it can provide BGAN service over that spacecraft in a manner that is no more susceptible to interference than I-3 was at the same orbital location.<sup>28</sup>

<sup>&</sup>lt;sup>27</sup> Nor was there anything in the last spectrum sharing agreement that required Inmarsat to conduct further coordination to address non-co-channel interference from Inmarsat's "High Speed Data" services. *Cf.* MSV Petition at 13 & n.27. If MSV truly had the concerns it expresses now, *see id.*, those issues, which were discussed in 1998, would have been addressed in the context of the 1999 spectrum sharing agreement which superseded the 1998 agreement. They were not. MSV's attempt to rewrite history almost seven years later therefore is unavailing.

<sup>28</sup> MSV's citation to the February 2003 ATC Order is inapposite. MSV Petition at nn.28-29. The analysis which MSV cites considered the potential impact on an I-4 narrow spot beam of sharing spectrum in the immediate vicinity of North America with the current generation MSV spacecraft. The Commission's analysis indicates that Inmarsat will not be able to employ co-channel sharing on narrow spot beams in the immediate vicinity of North America. Whether I-4's narrow spot beams will in fact suffer unacceptable interference from MSV depends entirely on how Inmarsat chooses to operate its narrow spot beams. Inmarsat is of course fully aware of the potential interference impact of MSV's current-generation operations and will plan its operations in order to avoid unacceptable interference. Contrary to what MSV argues, see MSV Petition at 16 n.29, the 37 dBW aggregate out-of-band interference limit, allocated in the I-4 design and explained in more detail in Inmarsat's February 3 2005 ex parte submission, remains valid. See Letter from John P. Janka to Marlene H. Dortch, IB docket No. 01-185 et al. (filed February 3, 2003) (attached paper entitled "ATC and Overloading of the I4 Satellites"). MSV however has misinterpreted the limit as well as over-estimated the level of interference likely to be produced by its currentgeneration system. See MSV Petition at 16 n.29.

In sum, Inmarsat has committed to operating BGAN within the technical umbrella under which Inmarsat services have been provided to the United States for years, and over the same frequency bands, and MSV has failed to demonstrate that Inmarsat's continuing to do so presents an interference threat. The Commission therefore should authorize BGAN service simply with a condition that service be provided on a non-harmful interference basis in the absence of an L-Band spectrum sharing agreement.

#### B. MSV's Two Remaining Allegations Are Unrelated to Interference

Because MSV cannot make a technical interference showing, MSV attempts to characterize unrelated issues within the "interference" rubric: (i) MSV complains about spectrum Inmarsat is using that MSV would like to use, which is the subject of an international spectrum dispute; and (ii) MSV takes issue with Commission precedent that, in the absence of an L-Band spectrum sharing agreement, L-Band operators may operate on any L-Band frequency, as long as they do so on a non-harmful interference basis.<sup>29</sup> Neither of these arguments is an interference issue, and neither has any bearing on Inmarsat's provision of BGAN over I-4.

First and foremost, as Inmarsat has detailed in prior pleadings, international L-Band spectrum disputes are appropriately resolved under the dispute resolution process established under the Mexico City MOU, and not in Commission licensing proceedings.<sup>30</sup>

<sup>&</sup>lt;sup>29</sup> AMSC Subsidiary Corporation, 8 FCC Rcd at 4043 ¶ 17. MSV mischaracterizes the MOU proceedings when it speaks of "Inmarsat's previous commitment to abide by the 1999 SSA." MSV Petition at 17. That several operators at one time may have expressed an interest in extending the 1999 spectrum sharing agreement became irrelevant once MSV refused to do so. The 1999 agreement required unanimous consent to extend it. Once MSV refused to extend, the 1999 spectrum sharing agreement expired and no longer governed the rights or responsibilities of MSV, Inmarsat or the other L-Band operators.

 <sup>&</sup>lt;sup>30</sup> Inmarsat E&E STA Response at 12-13; Inmarsat Telenor BGAN Opposition at 12 (citing *TMI Market Access Order*, 14 FCC Rcd at 20814 ¶ 34, 20826 ¶¶ 63-64; *COMSAT Order*, 16 FCC Rcd at 21698-21699 ¶ 72, 21712 ¶ 115; *MSV 63.5° Order* at ¶ 23; *MSV 101° Order* ¶ 34).

Second, Inmarsat will provide BGAN to the United States using the same portions of the L-Band over which it successfully has provided services to the United States for years, and on which Inmarsat continues to do so on a non-harmful interference basis today. That commitment should obviate any concerns about the theoretical use of other parts of the L-Band to provide these services. Because Inmarsat already uses those portions of the L-Band over the United States today on a non-harmful interference basis, other L-Band systems are not able to do so. Thus, the provision of BGAN on I-4 should not adversely affect MSV's use of the L-Band.

In any event, the Commission addressed over four years ago the possibility that L-Band operators may, in the absence of a spectrum sharing agreement, operate on any L-Band frequency on a non-harmful interference basis, in accordance with ITU Radio Regulations. In permitting TMI's entry into the United States market, the Commission expressly found that, in the absence of a spectrum sharing agreement, L-Band operators are "free to operate on any . . . frequencies that previously had been coordinated for [MSV]."<sup>31</sup> This makes sense, of course, because the spectrum assignments established in the 1999 spectrum sharing agreement were, and are, no longer in effect.

MSV's claim that the 2001 *COMSAT Order* constrained Inmarsat distributors to the frequency assignments that expired when the last spectrum sharing agreement terminated on

Inmarsat does not agree with MSV's recitation (at various places in MSV's Petition) of the history of spectrum assignments under the Mexico City MOU, its characterization of the terms and conditions under which various operators used or use portions of the L-Band, its assertions whether a specific portion of the L-Band was ever "loaned," its assertions about which Inmarsat satellites are covered by the MOU, or its assertions that Inmarsat somehow is improperly holding on to spectrum that Inmarsat is and has been using.

<sup>&</sup>lt;sup>31</sup> *AMSC Subsidiary Corp. v. FCC*, 216 F.3d at 1158-1159 (D.C. Cir. 2000) (citing *TMI Market Access Order*, 14 FCC Rcd at 20826 ¶¶ 63-64).

December 31, 1999<sup>32</sup> is belied by the express language of that decision. The Commission

expressly rejected the proposition that L-Band operators are constrained to using the frequency

assignments last made in an expired spectrum sharing agreement:

[U]nlike the *TMI Order*, we cannot state that Inmarsat will be operating on frequencies coordinated for it and that there is no chance of interference. The absence of [an operator-to-operator spectrum sharing] agreement, however, is not a sufficient basis upon which to deny the pending applications.

\* \* \*

[T]he absence of an operator-to-operator agreement since 1999 has not led to any complaints of harmful interference by any of the five Lband operators.... This experience provides additional support for our belief that spectrum limitation concerns are best addressed in the L-band coordination process.

\* \* \*

[T]here is no permanent assignment of specific spectrum to any Lband operator. Thus, no operator can assert any claim with respect to a specific piece of spectrum.<sup>33</sup>

Recognizing that the last spectrum sharing agreement had expired, the ordering clauses in the

COMSAT Order establish both (i) the conditions that apply until a new agreement is negotiated,

and (ii) the conditions that apply once a new agreement is negotiated.<sup>34</sup> MSV is wrong that these

two ordering clauses constrain L-Band uses to the segments last assigned in the 1999 spectrum

sharing agreement. That interpretation ignores the express text in the COMSAT Order, discussed

above, as well as the plain language of the ordering clauses.

<sup>&</sup>lt;sup>32</sup> MSV Petition at 12.

<sup>&</sup>lt;sup>33</sup> COMSAT Order, 16 FCC Rcd at 21698-21699 ¶¶ 71-73. MSV claims, without providing any support, that "in the view of everyone except Inmarsat," Inmarsat is expected to "return" the disputed spectrum to MSV "upon demand." MSV Petition at 6. However, as the *COMSAT Order* indicates, in the absence of a spectrum sharing agreement, "no operator can assert any claim with respect to a specific piece of spectrum;" thus, no operator and has the right to "demand" the return of any piece of spectrum.

<sup>&</sup>lt;sup>34</sup> *Id.* at 21712 ¶¶ 115(c)-(d).

The provisions that apply in the absence of a spectrum sharing agreement are specified in Paragraph 115(d) of the *COMSAT Order*, in which the Commission allowed operations anywhere in the 34 MHz of L-Band uplink or downlink spectrum, as long as those operations are conducted on a non-harmful interference basis.<sup>35</sup> If the Commission had intended to constrain operations to the spectrum last designated in the 1999 spectrum sharing agreement, there would have been no debate about what "operation on a non-harmful-interference basis" means or how the Commission would implement or enforce this type of license condition.<sup>36</sup> Rather, the Commission simply would have specifically constrained the bands in which Inmarsat service could be provided in the United States. That the Commission did not do so is reinforced by the earlier express recognition that Inmarsat distributors were not being limited to operation on "frequencies coordinated for [Inmarsat]" even in the complete absence of a spectrum sharing agreement.<sup>37</sup>

Putting aside this debate, it should not be lost that the portions of the L-Band that will be used to provide BGAN service are the *very same portions being used to serve the United States today* under the very same technical umbrella, including the same EIRP spectral density

<sup>&</sup>lt;sup>35</sup> *Id.* at 21712 ¶ 115(d).

<sup>&</sup>lt;sup>36</sup> See id. at 21697, 21699 ¶¶ 68, 72. MSV voiced its concern to the Commission that lack of an agreement "could take away lower L-band spectrum coordinated for [MSV's] system in the 1999 operator-to-operator agreement" and that, "under these circumstances," the Commission should "explain what operation on a non-interference basis means or how the Commission will implement or enforce this license condition." *Id.* at 21997 ¶ 68. The Commission rejected MSV's argument, stating: "We believe that the non-interference requirement promulgated in our rules and in the ITU Radio Regulations is sufficiently clear and needs no further explanation …." *Id.* at 21699 ¶ 72.

<sup>&</sup>lt;sup>37</sup> Id. at 21698 ¶¶ 71, 72 & n.175. Paragraph 115(c) of the COMSAT Order – limiting spectrum assignments to "the most recent annual L-Band operator-to-operator agreement" – is fully consistent with this interpretation. Paragraph 115(c) provides a mechanism for conforming the license terms to each subsequently entered into spectrum sharing agreement under the MOU.

levels, under which Inmarsat has successfully coexisted with MSV for years. Thus, the debate about whether Inmarsat theoretically could operate on all parts of the L-Band is not relevant in this case.

#### III. A NEW COORDINATION AGREEMENT IS NOT A PRE-CONDITION TO L-BAND OPERATIONS

Commission precedent is clear that the successful negotiation of an international coordination agreement is not a prerequisite to commencing, or even continuing, operations in the L-Band.<sup>38</sup> This very policy was affirmed twice last year, in January and May, when the Commission authorized MSV to operate two next-generation L-Band spacecraft (i) with fundamentally different technical parameters from MSV's existing spacecraft, and (ii) with operations that had not been coordinated, and which today remain to be coordinated.<sup>39</sup> In MSV's own words:

The satellites will be among the most powerful commercial satellites ever built. Each satellite's primary antenna will be twice as large as any previous commercial satellite, and the satellites will have significantly more power available over the U.S. compared to any other MSS system providing or seeking to provide service to the United States.<sup>40</sup>

That these new MSV spacecraft are fundamentally different than the spacecraft with which Inmarsat has coexisted for ten years was no barrier to MSV being authorized. In fact, MSV was authorized to employ carriers that are up to 1000 times wider than MSV's existing carriers, and up to *twenty-five times* wider than the BGAN carriers on I-4.<sup>41</sup> Moreover, MSV was allowed to add an entirely new continent to its service area (South America), and one new L-Band MSV

<sup>&</sup>lt;sup>38</sup> See id.; MSV 101° Order at ¶ 34; MSV 63.5° Order at ¶ 23.

<sup>&</sup>lt;sup>39</sup> *MSV 101° Order* at ¶ 34; *MSV 63.5° Order* at ¶ 23.

<sup>&</sup>lt;sup>40</sup> MSV Petition at 2.

<sup>&</sup>lt;sup>41</sup> See Inmarsat Telenor BGAN Opposition at 22-24.

spacecraft will be located *approximately* 40° *closer to* Inmarsat's L-Band satellite than MSV ever has operated before.<sup>42</sup>

In authorizing the operations of "the most powerful commercial satellites ever built," the Commission acknowledged that no coordination agreement was in place,<sup>43</sup> but simply required that MSV operate on a non-harmful interference basis. The Commission explained that MSV may operate its new, uncoordinated satellites on a non-harmful interference basis until such time as it successfully completes coordination.<sup>44</sup> The Commission further reaffirmed that, in the absence of a coordination agreement, all L-Band satellite operators "have continued to coordinate their operations informally and have been operating interference-free."<sup>45</sup>

MSV is wrong that the January and May 2005 Commission orders allowing MSV to launch and operate uncoordinated next-generation spacecraft can be distinguished because launch of those spacecraft is years away.<sup>46</sup> Nothing in those decisions presumed that MSV would be able to complete coordination prior to launch, and there is no condition requiring that MSV effectuate coordination prior to operating either new satellite, even when one will be about 40° closer to Inmarsat than MSV currently operates. Indeed, by MSV's own admission, its new spacecraft are well ahead of the Commission's milestone schedule, with operations now only three years away.

Moreover, those two MSV decisions are consistent with Commission precedent authorizing the *immediate provision* of *uncoordinated* L-Band services over the current MSV

<sup>46</sup> MSV Petition at 18, n.34.

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<sup>&</sup>lt;sup>42</sup> *MSV 101° Order* at ¶ 1; *MSV 63.5° Order* at ¶ 1.

<sup>&</sup>lt;sup>43</sup> *MSV 101° Order* at ¶ 34; *MSV 63.5° Order* at ¶ 23.

<sup>&</sup>lt;sup>44</sup> *MSV 101° Order* at ¶ 59; *MSV 63.5° Order* at ¶ 39.

<sup>&</sup>lt;sup>45</sup> *MSV 101° Order* at ¶ 34; *MSV 63.5° Order* at ¶ 23.

spacecraft, in frequencies designated for Inmarsat's exclusive use over the United States. In 2002, Inmarsat raised interference concerns related to OuterLink, an earth station applicant proposing to provide certain L-Band MSS services using MSV's satellite at 101° W.L. in a portion of the lower L-Band that was coordinated for Inmarsat's sole use over the United States.<sup>47</sup> Inmarsat expressed concerns that grant of OuterLink's application could allow OuterLink to claim interference protection from Inmarsat's operations, and thereby limit Inmarsat's use of the spectrum last assigned to it in international coordination negotiations. Thus, Inmarsat requested that OuterLink instead use spectrum that MSV had already coordinated with Inmarsat, or else that its application be denied. Ultimately, Inmarsat indicated that it would not object further if OuterLink were authorized on a non-interference basis.<sup>48</sup> Consistent with its prior precedent in the L-Band, Commission held to its policy of not requiring coordination as a prerequisite to operating in the L-Band, and it permitted Outerlink's operations on a non-harmful interference basis, even though the MSV spacecraft would be providing an uncoordinated service in uncoordinated frequency bands.<sup>49</sup>

<sup>&</sup>lt;sup>47</sup> Outerlink, Inc., 17 FCC Rcd 12757 (2002).

<sup>&</sup>lt;sup>48</sup> *Id.* at 12760-12762 ¶¶ 10.

<sup>&</sup>lt;sup>49</sup> The three C/Ku band FSS cases that MSV cites for the proposition that coordination must be achieved prior to receiving operating authority are inapposite and readily distinguishable in any event. *See* MSV Petition at 10 & n.21. First, none involved a frequency band that is subject to the types of conditions under which the subject L-Band services are being provided—the Mexico City MOU. Second, none involved the provision of services on a replacement satellite at the functionally equivalent orbital location, using the same frequencies, and within the same technical umbrella, under which service had been provided interference free for years and were proposed to continue. Moreover, in the unpublished PanAmSat letter ruling, the Commission did not "refuse" to authorize PanAmSat's C-band FSS operations in the absence of a coordination agreement. PanAmSat expressly agreed to seek "further Commission authority prior to activating the C-band transponders." *See* Letter from Thomas S. Tycz, Chief, Satellite and Radiocommunication Division, to Joseph A. Godles, SAT-STA-19980902-00057 (Sep. 15, 1998). The *BT* case is entirely inapposite because the Commission did not even address what would have occurred had the petitioner

MSV attempts to justify different treatment of Inmarsat based on the theory that "WTO members may exercise their domestic spectrum and frequency management policies when considering whether to allow foreign-licensed satellites to service the U.S. market."50 What MSV ignores is that the Commission already has in place a very clear L-Band spectrum management policy. Beginning with its order authorizing market access by TMI in 1999, and consistently through 2005, the Commission has implemented an L-Band policy of simply requiring, in the absence of a spectrum sharing agreement, that service be provided on a nonharmful interference basis, and not requiring that L-Band satellites be coordinated before they are permitted to provide United States service,"<sup>51</sup> as MSV requests here. In developing this policy, the Commission has expressly rejected "spectrum availability concerns" as a basis for excluding non-U.S. licensed L-Band systems from serving the United States.<sup>52</sup> Moreover, the history of the L-Band makes clear that L-Band operations can be conducted on a non-harmful interference basis, and that the imposition of a "non-harmful interference condition," coupled with the Commission's enforcement authority, has been a more than effective spectrum management tool in the United States.<sup>53</sup> Having provided MSV's next-generation, high-

not withdrawn its objections after reaching a commercial arrangement with the applicant's satellite service provider. *Applications of BT North America Inc.*, 15 FCC Rcd 15603 (2000) ("*BT*"). The *Loral* case involved a request to operate a Ku-band spacecraft a mere  $0.5^{\circ}$  away from an existing Ku-band spacecraft, where co-channel operation of the two spacecraft was impossible and harmful interference was a certainty. *Loral Orion Services, Inc.*, 14 FCC Rcd 17665 (1999). In the L-Band, as noted above, the operators successfully have been sharing spectrum on a co-channel basis for years, and there is no reason to believe they cannot continue to operate interference free.

- <sup>50</sup> MSV Petition at 7-8 & n.17.
- <sup>51</sup> MSV Petition at ii.
- <sup>52</sup> TMI Market Access Order, 14 FCC Rcd at 20814 ¶ 33; see COMSAT Order, 16 FCC Rcd at 21699 ¶ 72 ("spectrum limitation concerns are best addressed in the L-band coordination process").
- <sup>53</sup> See AMSC v. FCC, 216 F.3d at 1159-1160.

powered, broadband MSS spacecraft the benefit of that policy *twice* within the past year, there is no basis now to suddenly change course and to treat the similarly-situated Inmarsat I-4 spacecraft differently.

In sum, Inmarsat has done all it reasonably can do to resolve the current L-Band impasse. The record is clear that it is MSV who has refused to fulfill its coordination obligations and honor the commitments the United States made when entering into the Mexico City MOU.<sup>54</sup> Nothing in the ITU Radio Regulations or in Commission precedent allows MSV to stymie the continued provision of satellite services by other operators by withholding coordination, and by erecting regulatory roadblocks, as MSV seeks to do here and in other Commission proceedings. Withholding authority to use I-4 would simply delay the provision of a competitive service to the American public.

#### IV. NO OTHER ISSUE PROVIDES A REASON TO WITHHOLD AUTHORITY

MSV raises four additional issues, none of which warrants delaying grant of BGAN authority, and each of which has been fully briefed on multiple occasions before.<sup>55</sup>

MSV is wrong that I-4 is not a "replacement" for I-3 under the Mexico City MOU. As detailed above, the operating parameters of I-4 are compatible with the I-3 satellite that it replaced, I-4 will be operated in a manner that does not impose further sharing constraints than I-3, and I-4 will be operated in a manner that does not require more protection from

<sup>&</sup>lt;sup>54</sup> Id; FCC Hails Historic Agreement on International Satellite Coordination, Report No. IN 96-16 (rel. Jun. 25, 1996) ("Spectrum allocations to individual operators will be reviewed annually on the basis of actual usage and short-term projections of future need.") (emphasis added).

<sup>&</sup>lt;sup>55</sup> *See, e.g.*, Inmarsat Telenor BGAN Opposition at 24-25; Inmarsat FTMC BGAN Opposition at 24-25; Inmarsat Stratos BGAN Opposition at 13-15.

interference than I-3.<sup>56</sup> With regard to Commission policy, I-4 will serve the same parts of the United States, from the functionally equivalent orbital location, using the same frequencies as were specified for use on the I-3 spacecraft, and operating within the same technical umbrella as I-3 operates today. MSV has provided no basis upon which the Commission could find that I-4 is any less a replacement satellite than MSV's own next-generation satellite at 101° W.L.: "among the most powerful commercial satellites ever built," with significantly expanded geographic coverage.<sup>57</sup> Thus, by any definition, I-4 is a "replacement satellite."

Second, MSV's arguments regarding I-4's station-keeping tolerance are nothing but an attempt to further an unrelated Petition for Reconsideration that MSV has pending regarding its own license. MSV acknowledges that "the Commission rule requiring FSS satellite to operate with  $\pm 0.05^{\circ}$  East-West station keeping does not apply to MSS satellites," such as I-4. Whatever circumstances may have led to the Commission imposing such a requirement on MSV's operations at 101° W.L. are not present here.<sup>58</sup>

<sup>&</sup>lt;sup>56</sup> Moreover, nothing in the Mexico City MOU limits the parameters of replacement spacecraft when, as here, there is no current operating agreement under the MOU and none has been in place for six years.

<sup>&</sup>lt;sup>57</sup> The Commission retains discretion to treat a satellite as a "replacement satellite" even if the satellite covers additional areas beyond that of the spacecraft it replaces. Amendment of the Commission's Space Station Licensing Rules and Policies, 18 FCC Rcd 10760, 10857 ¶ 258 (2003) (confirming that the Commission "will consider replacement satellite applications that request greater coverage areas."). Indeed, MSV's substantial geographic coverage expansion to reach an entirely new hemisphere did not prevent the Commission from deeming MSV's next-generation satellite at 101° W.L. a "replacement." MSV 101° Order at ¶ 14. In the AfriSpace decision cited by MSV, the Commission rendered the "replacement satellite" question moot by waiving the modified processing round procedures that apply to NGSO-like satellites. AfriSpace, Inc., IB File No. SAT-LOA-20050311-00061, DA 06-4 at ¶ 12 (citing MSV 63.5° Order at ¶ 8).

<sup>&</sup>lt;sup>58</sup> While there is no station-keeping tolerance requirement of general application to MSS satellites, the Commission reserved discretion to impose a condition on station-keeping tolerance on a case-by-case basis. *Mitigation of Orbital Debris*, 19 FCC Rcd 11567, 11587 ¶ 47 (2004).

Third, there is no reason for the Commission even to entertain MSV's request that MVS file with the Commission its network security implementation arrangements with the United States Government. MVS's arrangements with the Executive Branch are not a matter for public comment by competitive MSS providers.<sup>59</sup>

Fourth, MSV's speculation about the possible future application of E911 to MSS<sup>60</sup> provides no basis to withhold action on this application. Inmarsat and its distribution partners will make appropriate provision for E911 service to covered terminals, in accordance with such requirements as may be adopted in the future.

<sup>&</sup>lt;sup>59</sup> Inmarsat is confident that MVS will address any national security concerns of the United States government prior to grant, but notes that national security and business confidentiality are among the legitimate reasons that resolution of national security issues may not be appropriate for disclosure on the *public* record, as MSV requests.

<sup>&</sup>lt;sup>60</sup> MSV Petition at 13.

### V. CONCLUSION

For the foregoing reasons, the Commission should deny MSV's Petition to Hold in Abeyance, and authorize BGAN service without any conditions other than requiring that, in the absence of a spectrum sharing agreement, service be provided on a non-harmful interference basis.

Respectfully submitted,

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January 26, 2006

#### **CERTIFICATE OF SERVICE**

I, Jeffrey A. Marks, hereby certify that on this 26th day of January, 2006, I caused to be

served a true copy of the foregoing "Opposition of Inmarsat Ventures Limited," by first class

mail, postage pre-paid (or as otherwise indicated) upon the following:

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