

**Before the
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the Matter of)	
)	IB Docket No. 05-220
Comments Concerning Use of)	
Portions of Returned 2 GHz)	
Mobile Satellite Service Frequencies)	

COMMENTS OF INMARSAT VENTURES LIMITED

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Inmarsat Ventures Limited (“Inmarsat”) submits its comments on the critical public policy issues raised in the June 29, 2005 *Public Notices* in this proceeding, and in related IB Docket No. 05-221, about the future of the Mobile Satellite Service (MSS) in the 2 GHz band. Inmarsat and its predecessors have over twenty-five years of experience deploying a successful and profitable business based on a global fleet of geostationary orbit MSS communications satellites that operate in the L band (1.5/1.6 GHz), which now totals ten spacecraft. The Inmarsat network continues to provide a wide range of essential services to, from, and within the United States to public safety, military, governmental, commercial, and humanitarian users alike. Inmarsat has invested over \$1.5 Billion in the deployment of its next-generation MSS network of L-band satellites and related ground infrastructure, with its first Inmarsat-4 satellite commencing commercial service on May 28, 2005, and the second scheduled for launch in the second half of this year or in early 2006, and to begin serving the U.S. shortly thereafter. In the financial year ended December 31, 2004, Inmarsat’s MSS business generated \$458.9 million of revenue. Thus, Inmarsat is particularly well-qualified to comment on (i) the impact of the spectrum assignments proposed in the *Public Notices*, (ii) the potential applications for 2 GHz MSS, (iii) the need to keep the 2 GHz band available for the growth of MSS and for competitive entry, and (iv) its interest in deploying an expansion MSS system in the 2 GHz band by the end of the decade.

I. INTRODUCTION AND SUMMARY

The June 29, 2005 *Public Notices* in this Docket and in related IB Docket No. 05-221 raise critical policy issues about (i) the role the MSS industry is to have in the forthcoming wireless broadband revolution, and (ii) how the Commission is to maximize the chances that the MSS industry will be able to participate in that revolution to the fullest extent and provide to the American public those benefits that satellite technology is uniquely suited to provide.

Those two *Public Notices* seek comment on what to do with 12 MHz of 2 GHz MSS uplink spectrum, and 12 MHz of 2 GHz MSS downlink spectrum that has been made available as a result of Boeing, Iridium, and Celsat tendering their MSS licenses for cancellation. One *Public Notice* calls for splitting the entire 20 + 20 MHz of 2 GHz MSS spectrum into thirds, and increasing the current TMI Communications and Company, Limited Partnership (TMI) and ICO Services Limited (ICO) spectrum reservations from 4 + 4 MHz to 6.67 + 6.67 MHz. The other *Public Notice* asks what to do with the remainder of the band that would not be reserved for TMI and ICO, *i.e.* whether that band should be (i) made available to provide one or more of their competitors the chance to deliver the yet-unfulfilled promise of advanced 2 GHz MSS services to American consumers, (ii) divided equally between TMI and ICO to the exclusion of additional entrants into the 2 GHz band, or (iii) reallocated from MSS to a different service.

The telecommunications world has fundamentally changed in the years since the Commission began to open the 2 GHz band for MSS in 1997, and thereby set the stage for licensing the first eight entities, including ICO, TMI, Boeing, Iridium, and Celsat, who were provided the chance to bring 2 GHz MSS services to the American consumer.¹ In the past two years in particular, significant advances in mobile technologies, new user applications, and the

¹ *Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service*, 10 FCC Rcd 3230, 3230 ¶ 1 (1995).

resulting demand for wireless broadband service to handheld and vehicular devices, have fuelled a revolution in the communications industry. Wireless broadband networks are on the brink of a colossal expansion that is expected to outpace even the explosive growth of mobile telephony in the 1990s:

- Wireless carriers have just begun to deploy broadband technologies on their cellular and PCS networks;
- New technology has been developed to support high-speed wireless broadband and multimedia services, such as CDMA 1x EV-DO (EV-DO), Wideband CDMA (WCDMA), UMTS/HSDPA (High Speed Downlink Packet Access), and Flash-OFDM (Orthogonal Frequency Division Multiplexing);
- Short-range broadband technologies such as Bluetooth and ultra-wide band are evolving to support wireless broadband connectivity over short distances among mobile devices, such as satellite terminals, laptops, PDAs, pagers, televisions, mobile telephones, and wireless personal area networks (WPANs);
- “Wi-Fi” 802.11 technology is being used by Wireless Internet Service Providers (WISPs) to provide a facilities-based alternative to DSL and cable services to millions of Americans; and
- “Wi-Max” technology and networks are evolving under the IEEE 802.16 family of wireless communications standards, providing the promise of last mile connectivity in metropolitan environments, the ability to span distances of up to 30 miles, and the ability to support the development of Wireless Metropolitan Area Networks (WMANs).

While these developments have been occurring, *none* of the eight entities whom the Commission originally authorized to deploy MSS at 2 GHz has come even close to deploying its authorized satellite system. Six entities turned in their licenses or lost them for failing to meet license milestones. The only 2 GHz MSS entities authorized by the Commission who remain standing — TMI and ICO — have retained their authorizations only through milestone waivers or extensions, and they still remain years away from actually deploying an MSS satellite network or commencing commercial services.

The failure to deploy the eight 2 GHz MSS systems authorized by the Commission in 2001 was principally caused by an accelerated deployment of cellular and PCS services throughout America, and the beginnings of the wireless broadband revolution. Those developments together have undermined the business plans of the original 2 GHz MSS applicants, including TMI and ICO, which originally called for the provision of satellite-based, telephony-like services to handheld devices in competition with then-regional PCS and cellular services. The business plans of each of those 2 GHz applicants were simply overtaken by events.

TMI's and ICO's filings in this matter acknowledge that their original system designs and business plans are likely to suffer the same fate as that of Boeing, Celsat, and Iridium, who recently recognized failure, and tendered their 2 GHz licenses for cancellation. TMI and ICO are therefore asking for the Commission to assist them, claiming that they now need to deploy combined MSS/ancillary terrestrial component (ATC) networks, and that their current spectrum assignments are not adequate to support the expected increased spectrum demand of an MSS/ATC system. Thus, they ask for government largesse in the form of a 250 percent increase in their current spectrum assignments, from 4 MHz in each direction to 10 MHz in each direction.

TMI and ICO ask for a chance to amend their business plans to reflect the new commercial reality, even though they remain years away from completing construction of their licensed satellite systems and have yet to make any significant progress on those systems. They also ask for more spectrum to allow them to deploy ATC even though the Commission was crystal clear that ATC deployment is to be done on an ancillary basis, *within a licensee's existing MSS spectrum assignment*.

At their essence, TMI's and ICO's requests raise two fundamental policy questions: (i) whether two entities who remain years away (if ever) from commencing commercial MSS service are to maintain a virtual "lock" on the right to use the 2 GHz band so they can deploy ATC; and (ii) whether the Commission should increase the chances that the American consumer will secure access to the significant benefits that MSS can provide, by ensuring that more than just these two entities have the chance to deploy a 2 GHz MSS system.

As set forth in more detail below, Inmarsat submits that the Commission should not reward TMI and ICO simply for delaying the implementation of their systems until they were the last authorized 2 GHz entities standing, particularly as these systems were designed to support business plans that are now flawed. More fundamentally, the Commission should not reduce the potential for MSS competition in the 2 GHz band by allowing those two entities to "lock up" access to the entire 2 GHz band in the U.S. so they can use it for ATC services. Rather, the public interest would be best served by ensuring that other entities, including Inmarsat, have the chance to access a segment of 2 GHz spectrum equal to TMI's and ICO's spectrum assignment, thereby increasing the chances that the American public can actually realize the promise of 2 GHz MSS service that has eluded it for so long.

Inmarsat is currently developing plans for a global rollout of broadband and multimedia MSS in the 2 GHz band, based upon a hybrid satellite/terrestrial architecture and in potential partnership with leading technology, service, and content partners. In support of those plans Inmarsat has made appropriate 2 GHz filings with the International Telecommunication Union through its UK regulator, Ofcom. These plans are expected to lead to the development of a state-of-the-art, next-generation MSS system, optimized for tomorrow's wireless broadband and multimedia needs, using the 2 GHz band, and focused on providing the next generation of

global voice, data, and multimedia MSS based upon Inmarsat's established position as a provider of global, high-speed-data MSS services. Inmarsat, however, can provide that competitive opportunity to *American* businesses and consumers by the end of the decade only if the Commission makes suitable provisions in this proceeding for additional entry by Inmarsat in the U.S. in the 2 GHz band.

The Commission's spectrum management responsibilities mandate that these questions and opportunities be explored in a comprehensive manner before a decision is made on the specific TMI and ICO spectrum requests at issue here. To date, the Commission expressly has declined to establish a policy about what to do with returned 2 GHz MSS spectrum. And the Commission has acknowledged repeatedly that a rulemaking proceeding "is generally a better, fairer and more effective method of implementing a new industry-wide policy than is the ad hoc and potentially uneven application of conditions in isolated proceedings affecting or favoring a single party."² That is surely the case here. The failure to address these types of issues in a comprehensive manner — specifically, the failure to comprehensively address the issues presented by the award of spectrum proposed in the *Public Notices* — may preordain the answer to the fundamental policy questions that this proceeding raises, and leave the American public without the benefits of having multiple providers who can bring 2 GHz MSS services to fruition.

Inmarsat urges the Commission to conduct a comprehensive evaluation of these issues and opportunities, on an expedited basis, to provide regulatory certainty, and to allow the prompt deployment of 2 GHz MSS services to the American public.

² *Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range; Amendment of the Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Satellite Licensees and Their Affiliates*, 17 FCC Rcd 9614, 9699 ¶ 218 (2002) ("NGSO-MVDDS Second Report and Order").

II. THE 2 GHz BAND IS ESSENTIAL TO MSS BROADBAND DEPLOYMENT AND MSS GROWTH

The Commission has previously recognized that satellite service is an important component of the broadband solution in America, and that satellite service supports the Commission's broadband policy goals.³ Inmarsat concurs that MSS satellite systems can have a vital role to play in the coming wireless broadband revolution, and believes that the 2 GHz band remains an important spectrum resource for that purpose. It also bears emphasis that the 2 GHz band also represents essential "expansion capacity" for MSS systems operating in other frequency bands that are becoming increasingly congested. For these reasons, which are described more fully below, it is essential, above all else, that the Commission maintain the entire 20 + 20 MHz of the 2 GHz band that is allocated for MSS, to allow MSS providers to continue to provide their essential services.

In this regard, Inmarsat believes that 2 GHz MSS would be ideally positioned to support the growing demand for personalized access to news, music and video entertainment, and information services, over mobile handheld devices and in vehicles. By exploiting the unrivalled geographical reach and scalability of satellite technology, MSS can allow new multicast, broadcast and video-on-demand applications to be delivered globally and seamlessly to individuals, businesses and government users alike. MSS is exceptionally well-suited to providing a "megacell" overlay to the terrestrial wireless broadband network in support of such applications, because the traditional 3G network architecture, with hundreds of base-stations, is not an efficient platform for transmitting multicast/broadcast content.

³ See Federal Communications Commission, *Availability of Advanced Telecommunications Capability in the United States: Fourth Report to Congress* at 23 (Sept. 9, 2004).

MSS is the sole technology that can offer a nationwide, highly-reliable, “anytime, anywhere” broadband network with the launch of a single radio transmitter. MSS thereby supports the provision of reliable and ubiquitous broadband services to all Americans, particularly in rural and other areas that will be unserved or underserved by terrestrial networks. In this way, MSS is uniquely suited to “fill the holes” in broadband coverage, in urban, suburban, and rural areas alike. Similarly, MSS is well-suited to support the provision of internet access, mesh networking, and telematics to cars, trucks, trains, ships and airplanes, including travel information, roadside assistance, positioning, smart-map navigation and location based services.

MSS facilitates the deployment of Wi-Fi hot spots and wireless community networks, by extending their reach into rural and remote areas not served by terrestrial broadband service. MSS also allows educational institutions to extend their reach, by supporting a “wireless campus” among remotely located students.

MSS also remains essential to support the needs of public safety and homeland security. MSS integrates first responders with their headquarters, wherever they may be located, enabling quicker communications of emergency information. Moreover, MSS facilitates remote surveillance of buildings, roads and waterways, and public gathering areas as well as the tracking of assets such as ships, planes, vehicles, and cargo containers. MSS is essential for these purposes because the network is independent of the terrestrial and cellular communications networks that may be unavailable or overwhelmed in an emergency. MSS communications thus are ensured in the time of an emergency, when police, firefighters and other rescue personnel need reliable communications the most.

The Commission’s development of a regulatory framework to permit an ATC component to MSS provides an appealing opportunity to augment today’s MSS with a

complementary terrestrial capability that can be expected to (i) provide traditional MSS customers with an enhanced level of service coverage by extending MSS communications into urban areas where MSS coverage can be sporadic, (ii) to attract new customers to MSS by improving the mobility and ubiquity of these services, and (iii) to drive innovation in the marketplace.

In short, the advent of ATC brings the opportunity for MSS, for the first time, to be a genuine competitor to terrestrial communications systems in their core urban and suburban markets and to increase the efficiency with which MSS spectrum is already used. ATC, as such, represents a significant opportunity for the American consumer, particularly in the context of the wireless broadband revolution.

Inmarsat is currently in the final stages of deploying its newest series of L-band satellites, the Inmarsat-4 series, which provide more than a twelve times spectrum efficiency improvement over its Inmarsat-3 satellite generation and thereby maintain an unrivalled grade of service in the face of greater demands for bandwidth, lower costs, and increasing competition. The high levels of spectrum reuse, small spot beams, and advanced coding techniques that are key-notes of the Inmarsat-4 spacecraft design will ensure that Inmarsat can continue to serve its existing customers while also meeting the demand for new broadband services in the near term. In fact, with the deployment of the Inmarsat-4 platform, Inmarsat will offer new and innovative services in the L-band, such the 3G-based Broadband Global Area Network (BGAN) service, which offers always-on IP services at data rates of approximately half a megabit — higher than have previously been possible over MSS spacecraft and over notebook-sized or smaller user terminals — which are expected to be available in the U.S. early in 2006.

Inmarsat's I-4 generation of satellites and related service offerings fully demonstrate its ongoing commitment to invest in technology that not only will ensure that MSS remains relevant in the twenty-first century and provides valuable new services to the American public, but also will use the scarce radio spectrum resource as efficiently as possible.

In the long run, however, the high-bandwidth demands of wireless broadband applications cannot be satisfied solely by the MSS spectrum allocations that are currently in use, namely the L-Band at 1.5/1.6 GHz and the "Big LEO band" at 1.6/2.4 GHz. The Commission has long recognized the shortage of 1.5/1.6 GHz L-Band spectrum that exists due to the historically high demand for access to that band.⁴ Moreover, there are significant technical challenges involved with offering a high data rate platform to hand-portable terminals alongside Inmarsat's currently provided services in the L-Band, which have very different link characteristics. Similarly, the 1.6/2.4 GHz Big LEO band is not suitable for MSS expansion, as the band is fully-licensed, the Commission revised the spectrum sharing arrangement between Iridium and Globalstar just last year, the U.S. federal government is seeking access to the band for itself, and use of the band is further constrained by other services in and adjacent to the band.⁵

Inmarsat believes that the 2 GHz band provides the main opportunity to support the continued growth and development of MSS services, just as the Ku band has been utilized by the FSS industry to fill needs that could not be met at C band, and just as the Ka band is starting

⁴ See, e.g., *Establishing Rules and Policies for the Use of Spectrum for Mobile Satellite Service in the Upper and Lower L-band*, 17 FCC Rcd 2704, 2708 ¶ 9 (2002).

⁵ See generally *Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands*, 19 FCC Rcd 13356 (2004).

to be used to fulfill needs that cannot be met in the now-congested Ku band.

MSS service applications and bandwidth demands, and Inmarsat's use of the L-band in particular, continue to grow at a significant and steady rate. Longstanding maritime applications are becoming more data intensive as corporate networks are extended to their vessels around the world. Aeronautical MSS uses are dramatically expanding in both the cabin and the cockpit, as MSS provides the opportunity for an "always on" broadband link to airplanes, wherever they are flying, to support air traffic control, weather updates, navigation, and voice and data communications. Moreover, the use of MSS to support land mobile services will continue to grow, particularly with the forthcoming deployment of Inmarsat's BGAN service in the U.S. and elsewhere. Indeed, over the last six years, Inmarsat's revenues from its spectrum-intensive data MSS have grown at a compound rate of more than 15 percent, amply demonstrating the global thirst of consumers for ubiquitous, rich, high-quality and relevant data services. Inmarsat expects this trend to continue following the launch of BGAN later this year.

Despite the exponential increase in efficiency with which the Inmarsat-4 system uses the scarce spectrum resource, and even taking into account similar expected gains in spectrum efficiency in the future, the high-bandwidth demands of MSS broadband and multimedia services and the rapid take-up of new MSS services and applications eventually can be expected to outstrip the available capacity in both the L-band and the Big LEO band. The nascent 2 GHz band therefore is an important "safety valve" to provide both for the continued growth of existing MSS services, and the development of new and innovative MSS services that cannot be accommodated in other MSS bands because of existing uses of those bands by satellite networks around the world, and the ways that shared use of those bands is accommodated. Indeed, the 2 GHz band provides a unique opportunity to provide for the continued growth of

MSS. Inmarsat therefore intends to commence the development of a state-of-the-art, next-generation MSS system, optimized for tomorrow's wireless broadband needs, that would use the 2 GHz band and would be ready to serve the United States by the end of this decade.

Those opportunities can be realized, however, only if the Commission retains the entire 20 + 20 MHz of the 2 GHz MSS allocation that exists in the U.S. today, and ensures the potential for meaningful competition in the development of this nascent band.

III. THE COMMISSION HAS NO POLICY ON WHAT TO DO WITH “RETURNED” 2 GHz MSS SPECTRUM

ICO and TMI seek a private, automatic redistribution of returned 2 GHz MSS spectrum pursuant to a purported Commission policy that simply does not exist. TMI requests that newly available 2 GHz spectrum automatically be redistributed among the remaining 2 GHz MSS authorization holders under the rules adopted in the *Space Station Licensing* proceeding,⁶ and further suggests that “extraordinary circumstances” exist that warrant (i) disregarding the Commission's policy against forming a structural duopoly in a nascent frequency band, and (ii) splitting the entire 2 GHz band between TMI and ICO.⁷ The spectrum distribution policy adopted in the *Space Station Licensing* proceeding and the corresponding FCC Rule, however, simply are not applicable, because the NPRM in that proceeding explicitly emphasized that the redistribution procedures to be adopted in that proceeding would not apply in the case of the 2 GHz MSS band: “We emphasize that we are not addressing this 2 GHz [MSS spectrum redistribution] issue in this proceeding, nor are we addressing any similar issues raised in any

⁶ See Letter from Gregory C. Staple, Counsel for TMI, & Jonathan D. Blake, Counsel for TerreStar, to Donald Abelson, Chief, International Bureau, FCC at 2 n.5, 3 (Apr. 20, 2005).

⁷ See *id.*

other proceeding in which we have issued licenses in the past.”⁸ Moreover, even if that rule did apply by its terms, the recent decision in the *Big Leo* spectrum sharing rulemaking makes clear that the Commission is not bound by that rule, because of the expectations it previously created that it would develop a policy for returned 2 GHz MSS spectrum at a later time.⁹

The statement in the *Space Station Licensing NPRM* is not the lone example of the Commission’s express decision not to preordain how it would reassign returned 2 GHz spectrum. The Commission intentionally has left that issue unresolved for over six years. The Commission first requested comment on how to redistribute returned 2 GHz MSS spectrum in 1999.¹⁰ Since that time, the Commission has expressly declined to adopt any redistribution policy for the 2 GHz MSS band. Indeed, the Commission’s prior pronouncements on this topic recognized that, at the appropriate time, it would explore both (i) the benefits of allowing new entrants a chance to succeed and compete in the 2 GHz band, and (ii) whether existing licensees had progressed sufficiently with their system implementation to warrant additional bandwidth:

- [A]s explained in the *Notice*, although we are hopeful that all authorized systems will be built, we recognize that this might not occur. Thus, there is the probability that additional spectrum will become available as some authorized systems are not able to implement service. *Spectrum abandoned by authorized systems may be available for expansion of systems that are operational and require additional spectrum.* We do not, however, establish a policy or rule for redistribution of abandoned spectrum here.

⁸ *Amendment of the Commission’s Space Station Licensing Rules & Policies*, 17 FCC Rcd 3847, 3864 ¶ 48 n.54 (2002).

⁹ *Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands*, 19 FCC Rcd 13356, 13378 ¶ 48 n.132 (2004); *see also infra* Section V.B.

¹⁰ *See Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band*, 14 FCC Rcd 4843, 4858 ¶ 29 (1999).

Instead, we will evaluate whether to redistribute such spectrum or make it available to new entrants after achievement of each of our system implementation milestones.¹¹

- The *2 GHz Order* did not specify any policy regarding cases in which a licensee is not able to implement its system. Rather, we stated that we would decide whether to redistribute the spectrum *or allow new entrants* at the time any license is cancelled.¹²
- As we previously stated in *2 GHz MSS R&O*, we have not established nor do we do so here any policy or rule regarding the use of additional abandoned spectrum that may result after future MSS milestone reviews are completed.¹³
- [T]he decisions we make herein are limited to those actions that will allow MSS licensees to continue the relocation of BAS and FS incumbents in order to begin service in the 2 GHz band. We will address specific pleadings that pertain to the ATC Order and the spectrum reallocation decisions in the AWS Third Report and Order separately.¹⁴

As these statements indicate, the Commission expressly has not articulated any policy providing for an automatic redistribution of 2 GHz MSS spectrum that becomes available due to a licensee surrendering its initial spectrum assignment. The Commission's decision to leave the 2 GHz MSS spectrum redistribution issue open is particularly wise, given that it could not have foreseen at that time (i) that no 2 GHz system it had authorized would be launched on time, (ii) the new opportunities for MSS that would be generated by the forthcoming wireless broadband revolution, or (iii) which other entities would be in a position to step in and actually deliver the true promise of 2 GHz MSS service, once the original 2 GHz MSS licensees failed.

¹¹ *Establishment of Policies & Service Rules for the Mobile Satellite Service in the 2 GHz Band*, 15 FCC Rcd 16127, 16139 ¶ 18 (2000) (emphasis added).

¹² *Amendment of the Commission's Space Station Licensing Rules & Policies*, 17 FCC Rcd 3847, 3864 ¶ 48 (2002) (emphasis added).

¹³ *Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems*, 18 FCC Rcd 2223, 2240 ¶ 32 (2003).

¹⁴ *Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for use by the Mobile-Satellite Service*, 18 FCC Rcd 23638, 23644 ¶ 7 n.26 (2003).

IV. NEITHER TMI NOR ICO HAS JUSTIFIED AN AWARD OF MORE SPECTRUM

It bears emphasis that neither TMI nor ICO has justified the assignment of additional spectrum, other than by repeating the oft-stated claim that “more is better.” Neither the TMI 2 GHz MSS system nor the ICO 2 GHz MSS system is even close to becoming operational; in fact, each system is only at the very early stages of construction. Moreover, TMI and ICO have as much as admitted that their long-promised MSS systems are simply not viable as a business matter without an ATC component, and they have stated that they cannot deploy ATC without at least 2 x 10 MHz.¹⁵

TMI’s and ICO’s statements stand in stark contrast to the representations both entities made when originally seeking their 2 GHz authorizations from the Commission. Their justifications are flatly inconsistent with the considerations underlying the Commission’s decision to allow the deployment of ATC in the 2 GHz band. Moreover, TMI’s purported technical and market showings do not withstand scrutiny.

A. Failing to Implement an MSS System on Time Does Not Warrant a Greater Spectrum Assignment.

In order to fully appreciate the lack of progress that ICO and TMI have made under their existing spectrum assignments, it is useful to review the 2 GHz system implementation timelines those entities originally represented to the Commission that they could achieve.

ICO’s predecessor in interest and affiliate, ICO Services Limited,¹⁶ originally

¹⁵ See Letter from Gregory C. Staple, Counsel for TMI, and Jonathan D. Blake, Counsel for TerreStar, to Donald Abelson, Chief, International Bureau, FCC, at 7 (Apr. 19, 2005).

¹⁶ ICO Services Limited effectuated a pro forma assignment of its letter of intent authorization to an affiliate, the currently authorized and commonly-controlled ICO Satellite Services G.P. See FCC File No. SAT-ASG-20020128-00015.

promised a global network of thirteen non-geostationary-orbit (NGSO) 2 GHz spacecraft, with commercial service beginning in 2000. So sure was ICO of its ability to deliver on this promise that it specifically asked the FCC not to accommodate the needs of MSS systems that would be brought into service after September 2002: “[t]o consider a longer implementation period likely will result in an artificial demand based on speculative applications for use of the 2 GHz MSS bands, thereby creating unnecessary pressure on the limited amount of available spectrum.”¹⁷

How true those words ring today.

ICO then went through bankruptcy reorganization, changed ownership, renegotiated with its spacecraft contractor, modified its spacecraft design, and announced it needed more time. In a November 2000 submission in which it described those developments, ICO reassured the Commission that it would need only a few more years — that its NGSO system would commence initial service in the United States by the second quarter of 2003.¹⁸ But as of October 2003, ICO had constructed and launched only two of the thirteen spacecraft in its network.¹⁹

More recently, in January 2005, and almost five years after the long-promised commencement of 2 GHz MSS service, ICO abruptly abandoned its NGSO network and sought authority to deploy a much scaled back system consisting of a single spacecraft in GSO orbit, which it hopes to launch by July 2007. Construction of that ICO spacecraft is supposed to

¹⁷ ICO Letter of Intent to Access 2 GHz MSS Frequency Bands at 1990-2025/2165-2200 MHz, SAT LOI-19970926-00163, at 3 (Sept. 26, 1997).

¹⁸ See Second Amendment to ICO’s Letter of Intent to Access 2 GHz MSS Frequency Bands at 1990-2025/2165-200 MHz, SAT LOI-19970926-00163 at 7 (Nov. 3, 2000).

¹⁹ See ICO Satellite Services G.P. Section 25.143(e) Annual Report, File No. 188-SAT-LOI-97 (Oct. 15, 2003).

commence this month.²⁰ Under a best case scenario, ICO's 2 GHz MSS system will be *seven years late*.

Similarly, TMI has failed to implement its system within the timeframe it originally described. TMI represented that it would have its 2 GHz system launched and operating within 44 months after it received a license from the Canadian government.²¹ TMI received that approval 38 months ago,²² yet its latest milestone certification confirms that its spacecraft is only in the earliest stages of physical construction and remains years away from completion.²³

TMI and ICO are not only late with delivering on their promises. They have not deployed their systems in accordance with the original FCC milestones, and have had to obtain exceptions and waivers in order to keep their FCC authorizations alive. Notwithstanding TMI's original plan to launch and place its spacecraft into service by the end of 2005,²⁴ after TMI failed to enter into the requisite satellite construction contract by July 2002, the Commission waived that milestone in June 2004 and gave TMI a full three and a half more years to complete its 2

²⁰ See *ICO Satellite Services G.P. Application for Modification of 2 GHz LOI Authorization*, DA 05-1504 (rel. May 24, 2005).

²¹ See TMI Communications and Company, Limited Partnership Letter of Intent by Non-U.S. Operator to Provide Mobile Satellite Service (MSS) in 2 GHz Band, SAT-LOI-19970926-00161, at 8 (Sept. 26, 1997).

²² See Letter from Gregory C. Staple, Counsel for TMI, to Marlene H. Dortch, Secretary, FCC, File No. 189-SAT-L03-97, IBFS Nos. SAT-LOI-19970926-00161 & SAT-AMD-20001103-60158, at 2 (July 26, 2002).

²³ TMI Communications and Company Limited Partnership March 2005 Milestone Certification, File Nos. SAT-LOI-19970926-00161, SAT-AMD-20001103-60158, & SAT-MOD-20021114-00237 (Apr. 11, 2005).

²⁴ December 31, 2005 will be two days shy of 44 months after the May 2, 2002 grant of authority by Industry Canada to TMI.

GHz satellite and place it into operation.²⁵ Notwithstanding ICO's promise of a robust NGSO global network by 2000, and despite ICO's own plea that the Commission not allow spectrum "warehousing" by any entity who could not execute its plans by 2002, in May 2005 the Commission allowed ICO to scrap its plans for a global NGSO network in favor of a stripped down, off-the-shelf, and far more modest regional GSO system. The Commission varied from its rules, extended ICO's future milestones, and thereby gave ICO until July 2007 to successfully implement its system — one year more than its rules provide for a GSO system, and five years more than ICO advocated *anyone should have* when it first sought FCC authority.

There are of course a variety of reasons that ICO and TMI can cite for their failed plans and missed opportunities. A tough economy, regulatory issues, technical challenges, and spectrum allocation uncertainty all certainly contributed to their respective decisions not to deploy their systems in a timely fashion, and to remain years away (if ever) from actually providing 2 GHz MSS service. But *business decisions* to delay, reorganize, redesign, and reconfigure surely should not entitle TMI or ICO to a windfall assignment of additional spectrum resource, particularly when the stated rationale for more spectrum is the need to now deploy ATC — a business opportunity afforded MSS systems in the 2 GHz band that is radically different from the services envisaged at the time of original licensing.

B. A Desire to Deploy ATC Does Not of in and of Itself Warrant Additional Spectrum.

In authorizing ATC, the Commission was clear that ATC would not be used as a ruse to justify access to more MSS spectrum: "MSS ATC proponents do not seek additional spectrum, but rather greater authority to use spectrum previously licensed for their use in satellite

²⁵ See *TMI Communications and Company, Limited Partnership and TerreStar Networks Inc. Application for Review and Request for Stay*, FCC 04-144 (rel. June 29, 2004).

systems in additional ways.”²⁶ The Commission went on to affirm that ATC was to be deployed within an MSS operator’s existing spectrum assignment: “granting MSS operators the ability to provide more and better services to both existing and potentially new subscribers *with the same amount of spectrum* necessarily improves the efficiency with which they can use the spectrum”²⁷ To this end, the Commission expressly agreed with TMI/TerreStar’s affiliate MSV, who asserted that “parties could not legitimately justify terrestrial ATC usage to justify a larger MSS satellite spectrum assignment.”²⁸

In stark contrast to these pronouncements, TMI and ICO invoke the desire to deploy ATC as the basis for an increased 2 GHz spectrum assignment. In TMI’s words, “[n]ow, it is evident that MSS licensees operating in the 2 GHz band will need at least a 2 x 10 MHz spectrum block *to create a viable hybrid satellite/terrestrial system*”²⁹ ICO echoes the same sentiments, advocating that the 2 GHz band be split between it and TMI in order “to afford sufficient spectrum to establish a fully competitive MSS *with an ancillary terrestrial component* (‘ATC’)” and complaining that “[t]he lack of sufficient spectrum available to 2 GHz licensees has been a significant hindrance in attracting investment and developing strong business plans.”³⁰

TMI’s and ICO’s ATC-based spectrum justifications are unsound and should be

²⁶ *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, 1974 ¶ 20 (2003).

²⁷ *Id.*

²⁸ *Id.* at 2067 ¶ 215.

²⁹ See Letter from Gregory C. Staple, Counsel for TMI, and Jonathan D. Blake, Counsel for TerreStar, to Donald Abelson, Chief, International Bureau, FCC, at 2 (Apr. 19, 2005).

³⁰ Letter from Suzanne Hutchings Malloy, ICO Senior Regulatory Counsel, to Donald Abelson, Chief, International Bureau, FCC, at 1, 2 (May 3, 2005) (emphasis added).

rejected. First, it bears repeating that the same two entities who claim that their MSS systems now are not feasible with 4 + 4 MHz accepted their initial assignment of only 3.5 + 3.5 MHz, and the attendant obligation to implement an MSS system with those constraints under the milestones the Commission established in 2001.³¹ Second, the Commission has been very clear that the deployment of an MSS spacecraft is one of the gating criteria that is a precondition to providing ATC. Thus, the alleged failure to have adequate spectrum to support ATC cannot serve as a rationalization for not deploying an MSS spacecraft. Moreover, Commission policy is very clear that ATC plans in and of themselves are not a justification for demanding more MSS spectrum.

C. Neither TMI nor ICO has Substantiated the Need for More Spectrum for MSS Service.

As described below, the Commission has indicated that it might “license to duopoly” in a given frequency band, as TMI and ICO advocate, if presented with “convincing evidence that allowing only two licensees in the frequency band will result in extraordinarily large, cognizable, and non-speculative efficiencies.”³² ICO has not submitted any such evidence. The only “evidence” that TMI has submitted is its April 19, 2005 submission, which contains a technical annex about spacecraft design and a qualitative, but admittedly non-quantitative, declaration about economies of scale regarding the manufacture of cellular/PCS handsets. For the reasons detailed below, TMI has not met its burden.

³¹ See *In the Matter of ICO Services Limited Letter of Intent to Provide Mobile-Satellite Service in the 2 GHz Bands*, DA 01-1635 (rel. July 17, 2001); *In the Matter of TMI Communications and Company, Limited Partnership, Letter of Intent to Provide Mobile-Satellite Service in the 2 GHz Bands*, DA 01-1638 (rel. July 17, 2001).

³² *Amendment of the Commission’s Space Station Licensing Rules and Policies*, 18 FCC Rcd 10760, 10788-89 ¶ 64 (2003).

Neither TMI nor ICO has presented any showing that the minimum amount of spectrum needed to commence mobile satellite service at 2 GHz exceeds its current reservation of 4 MHz in each direction, or that the Commission was wrong when it last concluded, based on its experience, that 2.5 MHz in each direction is sufficient for the commencement of mobile satellite service at 2 GHz.³³ It is a truism that more spectrum is better, because more spectrum supports greater overall system capacity and throughput, and a greater number of subscribers. Nothing in TMI's showing, however, provides a technical or commercial imperative for increasing TMI's spectrum assignment from 4 MHz in each direction, to 6 2/3 MHz (or more) in each direction.

TMI's claim for more spectrum is based on two main assertions: (i) assuming a satellite with sufficient downlink power (EIRP) to allow communication with a small PCS-like handset, an assignment of anything less than 10 MHz would be allegedly "spectrally inefficient," and (ii) in order to provide ATC, it needs 10 MHz in each direction in order to utilize certain technology that it alleges is becoming the "norm" for terrestrial systems, and to achieve an adequate level of PCS-like handset production.

1. "Extra" spacecraft amplifier power does not warrant more MSS spectrum.

TMI's arguments about the impact of the size of its spectrum assignment on the spectrum efficiency of its MSS system are specious. At its essence, TMI argues that it should have more spectrum simply because it has designed a satellite with excess power on board that can use that spectrum. If that type of showing were adequate to obtain a spectrum assignment, everyone could meet it, simply by specifying an over-sized spacecraft from their manufacturer.

³³ See *Establishment of Policies & Service Rules for the Mobile Satellite Service in the 2 GHz Band*, 15 FCC Rcd 16127, 16138-39 ¶ 17 (2000).

As an initial matter, most of TMI's technical showing, consisting of "link budgets," which demonstrate the ability to provide service to devices with the characteristics of cellular/PCS phones,³⁴ should be disregarded as irrelevant to the spectrum efficiency inquiry. The ability to provide an MSS signal to and from cellular/PCS type equipment simply is not affected by the aggregate amount of spectrum available on the satellite. Rather, as evidenced by those link budgets, the performance of the return link at the satellite (mobile terminal to satellite communication) is determined by (i) the strength of the signal emitted by the user terminal, and (ii) the characteristics of the receive antenna on the spacecraft, each of which is independent of the satellite operator's available bandwidth. The same is true as to the forward link (spacecraft to mobile handset communications), whose performance is determined by (i) the size of the antenna on the spacecraft, and (ii) the amount of power generated into that antenna, and not by the amount of available spectrum.

Thus, TMI's showing distils down to the point that, as long as it is assigned less than 2 x 10 MHz in the 2 GHz band, its satellite will have available but unused power on board, and therefore will be "bandwidth limited." While this may be true, this is a matter of TMI's own design, and not one that in any way justifies an assignment of more spectrum. Power is a very valuable and expensive commodity on a spacecraft. The amount of power that is generated affects the number of solar cells on the spacecraft, the battery size, and the launch mass of the spacecraft, among other factors. Thus, there are natural incentives to conserve power to enable the deployment of the lightest, least expensive design possible. Stated another way, the amount of excess power available on a spacecraft is defined solely by the operator — you have too much

³⁴ See Letter from Gregory C. Staple, Counsel for TMI, and Jonathan D. Blake, Counsel for TerreStar, to Donald Abelson, Chief, International Bureau, FCC, at Technical Appendix (Apr. 19, 2005).

power available only if you design it that way. Thus, TMI's argument is far from "convincing evidence" that warrants excluding potential competitive MSS providers from the 2 GHz band by assigning TMI more 2 GHz spectrum. Indeed, it wholly fails as a justification.

2. **ATC system design does not warrant the assignment of more MSS spectrum.**

TMI also bases its claim for more spectrum on a number of factors related to its desire to have a robust ATC system: (i) a 5 MHz terrestrial air interface; (ii) technology that TMI proposes to use to manage self-interference from ATC; and (iii) the desire for low-cost ATC handsets.

As an initial matter, if the terrestrial component of an MSS ATC network is, as the Commission has mandated, to be *ancillary*, then the design of the terrestrial component should not be allowed to drive the regulatory justification for the bandwidth needs of the satellite portion of the network. There is no requirement that a satellite component of an MSS system utilize the same air-interface as the terrestrial component, other than the commercial desire to have the terrestrial "tail" wag the satellite "dog."

Moreover, air interfaces are continuously evolving, and TMI provides no reason to conclude that there will need to be 5 MHz fixed bandwidth requirements for the carriers in its system. Neither the use of WIMAX nor the use of other systems such as CDMA EV-DO mandates the use of a 5 MHz bandwidth carrier. In fact, in the case of WIMAX, the work carried out by the standardization group under the 802.16 program expressly provides for the use of narrower carrier bandwidths. More fundamentally, because WIMAX and EV-DO were designed for two completely different sets of requirements, it is not clear that they represent the most spectrum-efficient air interface for an ATC network. In any event, a channelization scheme based on CDMA, using 1.25 MHz channels, will likely be around for many years to come.

Nor does TMI's reference to ground based beam forming networks and interference cancellation techniques carry the day.³⁵ Although the advantages of a ground based beam forming network vis-à-vis satellite based beam forming are a matter of debate, it is clear that use of a ground based beam forming network is independent of the size of an MSS spectrum assignment. In other words, that technology would work as well with 2 x 4 MHz of spectrum, as it would with 2 x 6.67 MHz or 2 x 10 MHz, although using greater MSS bandwidth could correspondingly increase the amount of *FSS feeder link spectrum* used by the satellite. Nor does the use of interference cancellation techniques to manage self-interference from ATC justify an increased MSS assignment.

TMI asserts that the ability of its MSS/ATC system to succeed is largely driven by its ability to create a handset that matches the cost, battery life, and form factor of terrestrial handsets.³⁶ As a threshold matter, again, considerations regarding the deployment of ATC, or the commercial viability of ATC, simply are not germane to whether TMI should be entitled to additional MSS spectrum. Moreover, TMI does not substantiate the assertion that an MSS/ATC system needs 2 x 10 MHz of spectrum to allow the production of affordable user terminal equipment or that its proposed handheld terminals actually will be able to operate inside a building or vehicle like the cellular/PCS terminals to which it compares its planned equipment. While TMI asserts that it needs to guarantee each of three different manufacturers minimum annual production runs of 1.5 - 2 million units per supplier, TMI in no way demonstrates why

³⁵ See Letter from Gregory C. Staple, Counsel for TMI, and Jonathan D. Blake, Counsel for TerreStar, to Donald Abelson, Chief, International Bureau, FCC, at Technical Appendix (Apr. 19, 2005).

³⁶ See Letter from Gregory C. Staple, Counsel for TMI, and Jonathan D. Blake, Counsel for TerreStar, to Donald Abelson, Chief, International Bureau, FCC, App. B, Decl. of Peter Cowhey at 4-6 (Apr. 19, 2005).

smaller production runs would not sufficiently spread non-recurring costs, or why its position is any different from that of entities such as Nextel, who operated for years with only one handset vendor. In contrast, it appears much more reasonable to assume that ATC handset devices will use many of the same electronic parts as other wireless devices, and that the same vendors will make those parts for TMI's ATC devices and for the other wireless providers, thereby spreading non-recurring costs among the different purchasers, and reducing the overall cost of the handsets. In any event, Inmarsat seriously questions why TMI's circular self-justification (using an "if we build it, they will come" business plan to reverse engineer its purported spectrum "needs") should even be considered as the basis of spectrum assignment policy in the 2 GHz band — it is simply a "castle in the air" completely divorced from reality and any appropriate spectrum assignment approach.

In conclusion, Inmarsat therefore submits that nothing that either TMI or ICO has submitted to date in any way justifies an award to either of them of additional 2 GHz spectrum.

V. THE COMMISSION SHOULD NOT INCREASE TMI'S AND ICO'S MSS SPECTRUM WITHOUT A COMPREHENSIVE REVIEW OF ITS POLICY GOALS

A. A Comprehensive Review Should Include the Impact of Fostering Competition in the Provision of MSS.

The Commission should not take precipitous action to increase the spectrum reservations for ICO and TMI on a piecemeal basis and without considering (i) its overall policy goals in developing MSS in the 2 GHz band, and (ii) the competitive implications of any re-assignment of reclaimed 2 GHz MSS spectrum resources. As set forth above, neither TMI nor ICO has justified a 5.34 MHz (or greater) aggregate increase in its respective spectrum assignment as being consistent with the public interest. More fundamentally, the *Public Notices* do not raise any of the appropriate questions, or indeed, signal any considered analysis geared

toward making findings that, under the right circumstances, even conceivably could justify such an increase.

Significantly, the Commission has not squared its conclusory tentative decision to add to the spectrum reservations of the two incumbent 2 GHz MSS licensees with its earlier-stated presumptive preference for at least three separate competitors in a given frequency band. In its *Space Station Licensing Reform* decision, the Commission explained the reasons underlying this preference:

We base this presumption that three is a sufficient number of remaining licensees on the Commission's reasoning in the *EchoStar-DirecTV Hearing Designation Order*, in which the Commission observed that courts have generally condemned mergers that would result in duopoly, particularly in cases where additional market entry would be difficult. The Commission explained further that, in cases where the merger is likely to result in a significant reduction in the number of competitors and a substantial increase in concentration, antitrust authorities generally require the parties to demonstrate that there exist countervailing extraordinarily large, cognizable, and non-speculative efficiencies that are likely to result from the merger. *Here, we find that the factors that have led courts to disfavor mergers to duopoly also support establishing a procedure that will maintain at least three competitors in a frequency band, unless an interested party can rebut our presumption that three is necessary to maintain a competitive market.* To rebut this presumption, a party must provide convincing evidence that allowing only two licensees in the frequency band will result in extraordinarily large, cognizable, and non-speculative efficiencies. We also reserve the authority to initiate a second processing round or spectrum reallocation rulemaking proceeding as circumstances warrant when there are more than three licensees remaining in operation in cases where it can be shown that our presumption is incorrect that three licensees would not make reasonably efficient use of the frequency band.³⁷

In this case, there currently is an MSS “duopoly” at 2 GHz, with ICO and TMI holding 8 MHz of MSS spectrum apiece. By the Commission's own logic and expressed policy presumption, the questions now on the table should center upon:

³⁷ *Amendment of the Commission's Space Station Licensing Rules and Policies*, 18 FCC Rcd 10760, 10788-89 ¶ 64 (2003) (citations omitted).

(i) why the two current 2 GHz MSS incumbents, who originally were licensed for 7 MHz of MSS spectrum and who now have 8 MHz, suddenly need up to 20 MHz of MSS spectrum each in order to make “reasonably efficient use” of that MSS frequency band;

(ii) how many competitors should be authorized to co-exist in the 2 GHz band in order to foster optimal levels of competition as well as to address inevitable attrition risks inherent in the implementation of new technologies and new business opportunities, which together will increase the chances that MSS ultimately will be successfully implemented at 2 GHz and thereby provide significant benefits to the American public; and

(iii) how to set aside and license one or more segments of 2 GHz spectrum, equal in size to all authorized 2 GHz systems, in a manner that will ensure the opportunity for competitive entry.

In asking these questions, the Commission should conduct a fresh inquiry and should not fashion a 2 GHz solution around the latest TMI and ICO spectrum requests. Surprisingly, however, the *Public Notices* instead move in the opposite direction, stating nothing other than a declared intent to increase the TMI and ICO spectrum reservations by assigning some or all of the remaining 2 GHz spectrum to the existing duopoly. Inmarsat urges the Commission to revisit its tentative proposal in light of the lack of progress that ICO and TMI have made at 2 GHz, the significant changes in the marketplace and in applicable technology that have occurred in recent years, and the very real potential for significant new entrants into the 2 GHz band that would increase competition at 2 GHz and the chances of successful implementation of the Commission’s MSS and ATC policies.

Inmarsat respectfully submits that, at a minimum, the Commission first should ensure that “the remaining satellite licensees have not been assigned more spectrum than they

need to meet their current and reasonably anticipated future customer needs.”³⁸ For the reasons explained above, those needs should not include the amount of incremental additional spectrum that could be used for the terrestrial ATC aspect of the ICO and TMI systems.

Next, inextricably linked to the question of the amount of spectrum required by ICO and TMI are the related questions of how many potential MSS competitors, additional or otherwise, can or should be introduced at 2 GHz in order to inaugurate a new era of innovative combined satellite and terrestrial wireless services, and what means should be used to license those competitors. As reflected in the stated three-licensee presumption governing NGSO-like operations in MSS bands, the Commission has striven where it can to avoid *structural duopolies* in satellite services.³⁹ Furthermore, as ATC becomes the new driver for the development of MSS business plans, it is important to note from the terrestrial wireless perspective that the transition from the cellular duopoly has been a key policy driver in the Commission’s development of a competitive market for terrestrial Commercial Mobile Radio Services.⁴⁰

Thus, considered from either direction — sky or earth — duopolies are disfavored. Inmarsat submits that there is no obvious public interest basis for the Commission’s

³⁸ *Id.* at 10788 ¶ 61.

³⁹ *See id.* at 10788-89 ¶ 64; *see also Auction of Direct Broadcast Satellite Licenses*, 19 FCC Rcd 23849, 23860 ¶ 23 (2004) (the “principal goal” in auctioning western DBS slots “is to enhance the possibility that an additional DBS provider can develop because we believe that a marketplace with additional competitors would likely result in such public benefits as greater price competition, additional new services, and increased technological innovation” (citation omitted)).

⁴⁰ *See, e.g., AT&T Wireless Services, Inc. and Cingular Wireless Corporation*, 19 FCC Rcd 21522, 21553 ¶ 61 (2004) (“The Commission’s first broadband PCS auction in 1995 marked the beginning of the transition from a cellular duopoly to a far more competitive market in mobile telephony services. In the wake of this and subsequent auctions, the mobile telephony sector has seen dramatic changes in market structure, carrier conduct, consumer behavior, and market performance that continue to the present day.”).

current proposal to allow two MSS incumbents to warehouse additional spectrum, without undertaking a comprehensive analysis of the attendant policy issues. Certainly, the Commission has latitude to make predictive judgments about the way in which the market will likely develop. But the record in this matter does not support any such judgment at this juncture.⁴¹

For the reasons set forth in these Comments, Inmarsat believes that the public would best be served by accommodating more than the two existing authorized entities at 2 GHz, and by providing each ultimately authorized entity with an equal spectrum allocation, thereby increasing the prospects of one or more 2 GHz MSS systems being launched into successful commercial operation and of meaningful competition between those systems. It may be that the public interest would best be served by authorizing three providers in the 2 GHz MSS with 2 x 6.67 MHz (13.34 MHz total apiece) (one logical outcome of the Commission's proposed actions in the *Public Notices*). But the Commission also should examine a scenario resulting in four 10 MHz licensees (2 x 5 MHz), before it takes action. Experience has shown — particularly in the CMRS marketplace implicated by ATC — that once spectrum is assigned to or acquired by particular providers, it rarely comes back “on the market.” The Commission stands at an important crossroad in the MSS industry and it is vitally important that the technological, business model, competitive, spectrum resources and risk management issues described above be very carefully considered before making a final decision about the long term use of the 2 GHz band.

⁴¹ See, e.g., *Prometheus Radio Project v. FCC*, 373 F.3d 372, 409 (3d Cir. 2004) (“Simply put, the Commission needs to undergird its predictive judgment . . . with some evidence for that judgment to survive arbitrary and capricious review.”).

B. A Comprehensive Review Would be Consistent with the Commission’s Approach in Similar MSS Contexts.

A comprehensive review of the issues raised by the *Public Notices*, including (i) what to do with returned 2 GHz MSS spectrum, (ii) how to deal with the spectrum requests of the two current incumbents, and (iii) how to accommodate and license new entrants in the band, would be consistent with the Commission’s approaches in at least two other cases in the MSS context.

Even if it were the case here, as TMI asserts, that an automatic redistribution of MSS spectrum is authorized by Section 25.157(g) of the Commission’s rules,⁴² the Commission has declined to follow that rule in very similar situations. In the context of the recent proceeding involving use of the Big LEO band at 1.5/1.6 GHz after three licensees failed to implement and lost their licenses, the Commission declined to follow the automatic application of Section 25.157(g) and instead determined what to do with returned MSS spectrum through a rulemaking process, which assessed, among other things, the impact of its 1.5/1.6 GHz band plan on accommodating new entrants in the band.⁴³ In so doing, the Commission concluded that the statements it previously had made in the context of establishing rules for the 1.5/1.6 GHz band “establish the expectations regarding that spectrum and not section 25.157(g).”⁴⁴ Likewise, when the Commission opened the lower part of the L-Band spectrum for licensing three years

⁴² See Letter from Gregory C. Staple, Counsel for TMI, & Jonathan D. Blake, Counsel for TerreStar, to Marlene Dortch, Sec’y, FCC at 2-3 (May 24, 2005) (citing 47 C.F.R. § 25.157(g)(1), (3)).

⁴³ *Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands*, 19 FCC Rcd 13356 (2004).

⁴⁴ *Id.*

ago,⁴⁵ it conducted a rulemaking process to determine to whom it should license the band, and, in doing so, actually *reduced* an existing licensee’s spectrum assignment by almost 29 percent due to changes in the technological landscape, and in order to enable the potential “creation of competitive MSS providers” in the band.⁴⁶ There is no reason for the Commission to diverge from its approaches in the recent *Big LEO* and *L-Band* proceedings, forego a comprehensive review of the issues, and effectuate an automatic redistribution of 2 GHz MSS spectrum here, particularly when the two existing 2 GHz licensed systems are not operational, are only at the early stages of system implementation, and have flawed business models in the current marketplace.

In sum, in the *Big LEO* matter, when there were two operating systems in the band, the Commission held a rulemaking to determine what to do with returned spectrum. In the *L-Band* proceeding, where there were three operating systems in the band serving North America, the Commission also resolved the assignment of additional spectrum through rulemaking. In each case, the Commission’s comprehensive review included the effect of its decision on the potential for competitive entry in the band at issue.

There is no good reason why the Commission should change course and permit a redistribution of returned 2 GHz MSS spectrum without a comprehensive review of the issues, particularly where, as here, there is not a single MSS system providing service in the band. The Commission has the ability to consider the TMI and ICO spectrum requests in that context, and make appropriate adjustments to their spectrum reservations because it “has the authority to

⁴⁵ See *Amendment of Part 2 of the Commission's Rules to Allocate Spectrum for Mobile-Satellite Services in the 1530-1544 MHz and 1626.5-1645.5 MHz Bands*, 8 FCC Rcd 4246, 4246 ¶ 1 (1993).

⁴⁶ See *Establishing Rules and Policies for the Use of Spectrum for Mobile Satellite Service in the Upper and Lower L-Band*, 17 FCC Rcd 2704, 2711-12 ¶¶ 18-19 (2002).

modify the 2 GHz MSS authorizations by rulemaking.”⁴⁷ Indeed, a comprehensive review of the issues here, including the impact of the fundamental changes in the marketplace, and the need to foster a competitive MSS industry, is warranted prior to any modification of TMI’s or ICO’s spectrum assignments. As the world’s leading MSS operator, Inmarsat urges the Commission to conduct such a policy review and it stands ready to assist the Commission in any way that may be helpful.

VI. CONCLUSION

Rather than awarding TMI and ICO additional spectrum in which to deploy an ATC system, as proposed in the June 29, 2005 *Public Notice*, the Commission should conduct a comprehensive evaluation of the opportunities for the continued development of the 2 GHz band by the MSS industry. In doing so, the Commission should not fashion a 2 GHz solution around the latest TMI and ICO spectrum requests. Rather, the Commission should ensure that more than just those two entities will have the opportunity to deliver the promise of broadband MSS at 2 GHz to the American public. Inmarsat, a leading global MSS operator with a demonstrated track record of innovation and investment in next-generation services, stands ready to use such an opportunity to support its development of a state-of-the-art 2 GHz MSS system. That system, serving the United States, would ensure that all Americans, including those in rural and other unserved and underserved areas, will be able to enjoy the unique reliability and efficiencies of mobile satellite systems.

⁴⁷ *Amendment of Part 2 of the Commission’s Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems*, 18 FCC Rcd 2223, 2240 ¶ 33 n.97 (2003) (citing *Cnty. Television, Inc. v. FCC*, 216 F.3d 1133, 1140-41 (D.C. Cir. 2000)).

Since the Commission licensed the 2 GHz band, the dynamics of the mobile telecommunications industry have dramatically changed, the demand for wireless broadband services has exploded, and six of the eight originally authorized 2 GHz MSS systems have lost their licenses. Moreover, the Commission has authorized ATC and thereby created the potential for MSS, for the first time, to be an effective competitor to terrestrial communications systems in their core urban and suburban markets.

The potential for the MSS industry to respond to these changes and bring new and innovative services to the American public is greater than ever. This remains true even though three licensees recently tendered their authorizations for cancellation and no one has yet implemented a 2 GHz MSS system. The MSS industry can maximize the opportunity to do so, however, only if the entire 20 + 20 MHz of spectrum in the 2 GHz band is kept available to support the development of new broadband MSS applications, as well as the continued growth of existing MSS applications in the congested MSS bands that are currently in use (the 1.5/1.6 GHz L-band and the 1.6/2.4 GHz Big LEO band).

Thus, this proceeding presents a unique opportunity for the Commission to ensure a continued place for MSS in the wireless broadband revolution. In doing so, the Commission should reaffirm its policy against licensing a duopoly in a nascent frequency band. Providing for more than two authorized MSS providers at 2 GHz both would increase the potential for competition and increase the probability that a 2 GHz MSS network will achieve commercial success, all to the benefit of the American public.

Inmarsat therefore respectfully requests that the Commission ensure the opportunity for effective MSS competition at 2 GHz by:

First, reaffirming its decision to keep 20 MHz + 20 MHz of the 2 GHz band

available for MSS;

Second, determining the optimal number of entities that should be authorized to provide MSS in the nascent 2 GHz band and the means for authorizing competitive entry in the band; and

Third, ensuring that all such authorized entities have access to an identical amount of spectrum.

Finally, after addressing the foregoing issues, Inmarsat submits that the Commission should evaluate the requests of TMI and ICO to increase their 2 GHz MSS spectrum assignments, taking into account their lack of progress in implementing the systems each was authorized to deploy four years ago.

In order to provide regulatory certainty and thereby allow the prompt deployment of 2 GHz MSS to the American public, Inmarsat urges the Commission to conduct such a comprehensive evaluation on an expedited basis.

Respectfully submitted,

INMARSAT VENTURES LIMITED

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July 13, 2005

TECHNICAL CERTIFICATION

I have reviewed the foregoing Comments of Inmarsat Ventures Limited. The technical information contained therein is true and correct to the best of my present knowledge, information, and belief.

/s/ Marcus Vilaca
Name: Marcus Vilaca
Title: Chief Systems Engineer

July 13, 2005