

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

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| In the Matter of |) | |
| |) | |
| Amendment of Part 22 of the Commission's |) | WT Docket No. 03-103 |
| Rules To Benefit the Consumers of Air-Ground |) | |
| Telecommunications Services |) | |
| |) | |
| Biennial Regulatory Review-Amendment of |) | |
| Parts 1, 22, and 90 of the Commission's Rules |) | |
| |) | |
| Application of Verizon Airfone Inc. for Renewal |) | File No. 0001716212 |
| of 800 MHz Air-Ground Radiotelephone License, |) | |
| Call Sign KNKG804 |) | |

To: The Commission

**AIRCELL, INC. OPPOSITION TO
PETITION FOR CLARIFICATION AND RECONSIDERATION
OF SPACE DATA CORPORATION**

AirCell, Inc. ("AirCell") hereby submits this Opposition to the Petition for Clarification and Reconsideration ("Petition") filed May 13, 2005 by Space Data Corporation ("Space Data") in the above-referenced docket concerning the development of new service rules for the air-to-ground ("ATG") band. Specifically, AirCell opposes Space Data's request that the Commission reconsider its decision, contained in the *ATG Order*, [1](#) to prohibit the use of ATG spectrum for the provision of terrestrial services.

[1](#) *Amendment of Part 22 of the Commission's Rules To Benefit the Consumers of Air-Ground Telecommunications Services*, WT Docket No. 03-103, Report and Order and Notice of Proposed Rulemaking, FCC 04-287 (rel. Feb. 22, 2005) ("*ATG Order*").

I. OPPOSITION IN THE RECORD TO THE USE OF ATG SPECTRUM FOR TERRESTRIAL SERVICES WAS CLEAR AND CONVINCING

The record developed over the past two years in the Commission’s ATG proceeding is clear: there should be no terrestrial service allocation for the four megahertz ATG band. Space Data stood as a minority of one in advocating a secondary terrestrial use; eight other commenters opposed it. These diverse commenters, AirCell among them, presented solid rationales for prohibiting terrestrial use. Nothing has changed that would alter the validity of those rationales, summarized below.

ATG Spectrum Is Too Limited to Permit Other Services. The 4 MHz ATG band is the *only* band designated for terrestrial air-to-ground use. Comments filed in the docket from multiple parties have described the pent-up demand for air-to-ground services. ^{2/} With 600 million enplanements per year, some commenters have also indicated that 4 MHz may not be sufficient to meet the expected demand. ^{3/} By contrast, there are already *hundreds* of megahertz of spectrum available for the provision of the type of land mobile service for which Space Data proposes to use ATG spectrum. Given the extremely limited amount of spectrum available to serve such an enormous commercial market, it would make little sense to allow *any* of this spectrum to be diverted to terrestrial use. Even if terrestrial use is limited to the specific conditions suggested by Space Data (*e.g.*, enabling use only where no terrestrial-based wireless service is available), there is no guarantee that use on the ground will not limit the capacity available to passengers in the air. Although AirCell appreciates Space Data’s interest in

^{2/} See, *e.g.*, Verizon Airfone Comments at 4; Boeing Reply Comments at 3 (citing “strong current and future demand”); Letter from Rich Farr, American Airlines, to Marlene Dortch, FCC (Aug. 30, 2004) at 1 (“the demand for data services continues to increase at a dramatic pace”); Letter from James Compton, Continental Airlines, to Marlene Dortch, FCC (Sept. 8, 2004) at 1 (demand “will only continue to strengthen moving forward”).

^{3/} See, *e.g.*, Qualcomm Comments at 6 (stating the current allocation is “simply insufficient” to meet the demand and calling for 60 MHz of spectrum dedicated to ATG).

providing additional service to persons in “rural and underserved areas,” AirCell suggests that the flying public is perhaps *the most* underserved market in existence today, and is deserving of the full 4 MHz of spectrum without the dilution that would result from a second allocation in the band.

Allowing terrestrial operations on ATG spectrum would skew the auction results. Located adjacent to cellular spectrum, a nationwide ATG license with terrestrial authority would have enormous value to an incumbent wireless provider, who would have a motivation to bid much more than parties intending to make the full capacity of the limited spectrum available to the flying public. Because it is located immediately adjacent to the cellular band, the spectrum could likely be deployed with a minimum of additional infrastructure costs by having existing base stations and new handsets tuned to accommodate the carrier’s expanded frequency range. The lure of a potentially significant revenue stream from terrestrial subscribers could make even non-incumbents, such as Space Data, value the spectrum more highly than entities, like AirCell, who are committed to maximizing the use of the band for air-to-ground services. As the Commission long ago recognized, “Congress has instructed us not to seek to maximize auction revenues at the cost of other important objectives.” ^{4/} In the *ATG Order*, the Commission correctly decided that the public interest would best be served here by “ensuring that this limited spectrum resource is devoted to the provision of air-ground service.” ^{5/}

^{4/} *Review of the Pioneer’s Preference Rules*, Memorandum Opinion and Order on Remand, 9 FCC Rcd 4055 (1994) at ¶ 13. *See also Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, Second Report and Order, 9 FCC Rcd 2348 (1994) at ¶ 73 (“While Congress has charged [the FCC] to recover a portion of the value of the public spectrum made available via competitive bidding, this does not amount to maximizing revenue, nor is it [the FCC’s] sole objective.”).

^{5/} *ATG Order* at ¶ 53.

Terrestrial ATG Operations Would Pose an Interference Threat. As noted by a number of commenters, allowing terrestrial operations in the ATG band would increase the risk of interference to adjacent band licensees, including public safety users. ^{6/} With antennas tilted down to provide service on the ground, interference from ATG out-of-band emissions would be a serious concern. Moreover, terrestrial service generally means that the ATG licensee would need to build more ground sites, which in turn would increase the potential for interference with adjacent licensees, including cellular B band providers, according to Verizon Wireless. ^{7/} Cingular also believes that primary air-to-ground service could be jeopardized by terrestrial operations. ^{8/}

Space Data's "solution" to the potential interference is for the Commission to draft its rules to accommodate only Space Data's (purportedly) non-interfering stratospheric platform technology. ^{9/} Consistent with its general policy, however, the Commission should strive for technological neutrality, rather than authorizing the sharing of a spectrum band contingent on the endorsement of one specific technology. ^{10/} Of course, by avoiding the unneeded secondary

^{6/} See, e.g., Cingular Comments at 6; Letter from Trey Hanbury, Nextel, to Marlene Dortch, FCC (Dec. 8, 2004) (terrestrial ATG "would greatly increase the risk of interference"); Verizon Wireless Reply Comments at 4; Letter from Christopher Guttman-McCabe, CTIA to Marlene Dortch (Dec. 9, 2004) ("adding an ancillary terrestrial service to this band does not make sense in this environment"); American Mobile Telecommunications Association Comments at 4; Letter from Luisa Lancetti, Sprint, to Marlene Dortch, FCC (Dec. 3, 2004) (terrestrial ATG "implicates interference and other issues not adequately addressed by the docket and submissions made"); Motorola Comments at 2-3 (ATG band serves as a guard band).

^{7/} See Verizon Wireless Reply Comments at 4.

^{8/} See Cingular Comments at 6-7.

^{9/} Petition at 7-8.

^{10/} See *Establishment of Policies and Service Rules for the Non-Geostationary Satellite Orbit, Fixed Satellite Service in the KA-Band*, Report and Order, 18 FCC Rcd 14708 (2003) at ¶ 10 (stating that the development of spectrum sharing rules "should be technologically neutral, not favoring any particular technology or operational method").

allocation, the Commission could avoid creating an uneven playing field designed to accommodate only one player's technology.

II. SPACE DATA'S PETITION FAILS TO JUSTIFY A TERRESTRIAL ALLOCATION FOR THE ATG BAND

As discussed below, the Space Data Petition fails to put forth any evidence or compelling argument that would justify a terrestrial allocation for the ATG band.

ATC Precedent Is Not Relevant. The Petition cites to the prior grant of ancillary terrestrial component ("ATC") authority for mobile satellite service ("MSS") as precedent that supports Space Data's proposal. ^{11/} However, MSS ATC is not analogous to terrestrial use of ATG spectrum. MSS ATC was authorized primarily to facilitate the ability of MSS licensees to extend their already-authorized service into buildings and urban areas where satellite signals are attenuated. ^{12/} The flexibility granted related to the location of the licensee's facilities – *i.e.*, on the ground rather than in space. Unlike Space Data's proposal, ATC does not provide any additional authority with respect to the location of the *subscribers*, as MSS licenses already had authority to serve users on the ground. Under the Commission's rules, ATC operations must be fully integrated into the MSS licensee's "traditional" satellite-based service offering. The Commission was exceedingly clear that licensees could not use ATC authority to create a second service offering: "We do not intend, nor will we permit, the terrestrial component to become a stand-alone service." ^{13/} By contrast, this is precisely the type of authority Space Data *does* seek – authority to offer a second, stand-alone service that is wholly unrelated to the ATG band's

^{11/} See Petition at 6-7.

^{12/} See *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*, Report and Order, 18 FCC Rcd 1962 (2003) at ¶ 14.

^{13/} *Id.* at ¶ 1.

intended purpose of serving the flying public. Thus, the Commission's MSS ATC precedent is inapposite to the new authority sought here.

Rules Should Not Be Developed to Benefit One Specific Technological Approach. Space Data seems to be proposing a secondary terrestrial use that will advantage only its own stratospheric platform technology. For example, Space Data is proposing to allow secondary service to terrestrial subscribers only where terrestrial-based service is not built out, and it is justifying its proposal by claiming that adjacent band interference would not be an issue as long as the service was offered by stratospheric platform, which would avoid the near-far problem. ^{14/} All other parties expressing an interest in the ATG band have proposed to provide ATG service by constructing tried-and-true ground-based facilities, rather than relying on high altitude platforms that are commercially unproven on a large scale. Therefore, these parties would face the same economics as terrestrial wireless carriers in building out in rural areas, and they would not have the same ability that Space Data purportedly has to avoid the near-far interference problem. Thus, as proposed by Space Data, an ATG terrestrial service allocation would only benefit Space Data. Authority for a specific use suited to only one party is best accomplished by seeking a waiver after a license is obtained, rather than by general rulemaking. Moreover, whether applying for a waiver or making a case in a rulemaking proceeding, a party seeking a new allocation should put forth sufficient technical data for the Commission to be able to determine whether the new allocation can be made without interfering with existing services. Space Data has presented no technical data to support its proposal. The Commission should therefore proceed with an auction of the ATG spectrum under its current rules. Should it win an ATG license, Space Data will be able to apply for a waiver at that time.

^{14/} See Petition at 7 (explaining that “there is no near-far interference with a stratospheric system as all the users and terrestrial base stations are ‘far’ from a stratospheric transmitter”).

Space Data Fails to Justify the Need for ATG Spectrum to Serve Rural Areas. The Space Data Petition asserts that a secondary terrestrial allocation for ATG is needed in order to serve rural areas. ^{15/} Space Data already holds narrowband PCS (NPCS) licenses and has proposed that NPCS spectrum could be used to provide air-to-ground service using its balloon-borne stratospheric platforms. ^{16/} It logically follows that, if Space Data can use NPCS to provide service on aircraft, it should also be able to use this spectrum to serve rural areas. Space Data does not explain why it desires to use NPCS for air-to-ground service, and to use ATG spectrum for land mobile service.

Terrestrial Authority Is Not Justified to Serve as a Back-Up Business Plan. When viewed in context of its comments in the *Airborne Cellular* proceeding, ^{17/} Space Data's lone advocacy for terrestrial use of ATG could suggest that it may have some concerns about its ultimate ability to provide service to airborne subscribers. In that proceeding, Space Data is promoting an alternative to the pico cell concept: it proposes to communicate directly from its stratospheric platforms to ATG- and NPSC-capable handsets used by passengers aboard aircraft. Although not stated by Space Data, such a scheme would inevitably require the handsets to operate at relatively high power levels in order to reach hundreds of miles to the nearest balloon-based platform. ^{18/} However, the commenters in that proceeding are virtually unanimous in concluding that RF emissions from handheld devices must be kept to a minimum to avoid potential interference to

^{15/} See Petition at 5.

^{16/} See Comments of Space Data Corporation, May 26, 2005, filed in WT Docket 04-435, at 4-6.

^{17/} *Amendment of the Commission's Rules to Facilitate the Use of Cellular Telephones and Other Wireless Devices Aboard Airborne Aircraft*, WT Docket No. 04-435, Notice of Proposed Rulemaking, FCC 05-1015 (rel. Feb. 15, 2005).

^{18/} One balloon-based platform can cover an area that is 420 miles in diameter. See <http://www.spacedata.net/technology.htm>. Thus, an aircraft at the perimeter would be over 200 miles from the platform, and at an altitude that is some 12 miles lower.

aircraft avionics, and there may be doubt as to whether the FAA will approve the type of handset-to-balloon use that forms the basis of Space Data's planned air-to-ground service. With its primary plan subject to such risk, Space Data may well be seeking the potential for terrestrial service as a back-up business plan. ^{19/} As noted earlier, the market for ATG services is too large, and the amount of ATG spectrum is too small, to permit diversion of any segment for other uses, even where interference concerns simply rule out certain proposed technological solutions to the provisioning of air-to-ground service.

CONCLUSION

For the reasons explained above, the Commission should deny Space Data's request to permit the provision of terrestrial services using ATG spectrum.

Respectfully submitted,

AIRCELL, INC.

By: /s/ Michele C. Farquhar
Michele C. Farquhar
David L. Martin
HOGAN & HARTSON L.L.P.
555 Thirteenth Street, N.W.
Washington, D.C. 20004-1109
(202) 637-5600

Its Attorneys

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^{19/} Moreover, by quickly establishing a base of terrestrial subscribers, the Commission would be presented with a more complicated effort in, for example, reclaiming Space Data's license for failure to provide adequate ATG service, given that it would have to address the discontinuation of service to the terrestrial subscribers. The spectrum would also be encumbered by potential interference-causing terrestrial users such that the other ATG licensee (relying on terrestrial base stations) would not be able to utilize the spectrum through a lease from Space Data.

CERTIFICATE OF SERVICE

I, Gayle Hall, certify that I have, on this 16th day of June 2005, caused to be served, via USPS first-class mail, a copy of the foregoing Opposition to Petition for Reconsideration on:

Cheryl A. Tritt
Jennifer L. Kostyu
Morrison & Foerster LLP
2000 Pennsylvania Ave, NW
Suite 5500
Washington, D.C. 20006
Counsel to Space Data Corporation

/S/ Gayle Hall _____