DOCKET FILE COPY ORIGINAL ORIGINAL

BEFORE THE

Federal Communications Commission

In the Matter of Amendment of the Commission's Rules to Establish New Personal Communications Services	)	GEN Docket No. 90-314

RECEIVED JUL 05 1994 FCC MAIL ROOM

PETITION FOR PARTIAL RECONSIDERATION

CELSAT, INC. ("CELSAT") hereby petitions the Commission for reconsideration of its broadband PCS *Memorandum Opinion and Order* ("PCS MO&O") released in the above-captioned proceeding on June 13, 1994 (FCC 94-144). Specifically, CELSAT urges the Commission to reconsider and amend its reallocation of the Emerging Technologies ("ET") spectrum at 1970-1990 MHz to include a further *secondary* allocation for domestic Mobile Satellite Services ("MSS"). Alternatively, if it will not adopt such a secondary allocation in the context of this proceeding, then the Commission should at least clarify that such an additional secondary allocation may follow. In support thereof, CELSAT states as follows:

In its *Second Report and Order* in GEN Docket No. 90-314, 8 FCC Rcd 7700 (1993), the Commission expressly acknowledged the critical spectrum needs of the emerging MSS industry by reserving the Emerging Technologies paired bands at 1970/1990 MHz and 2160/2180 MHz tentatively for MSS services (the "ET MSS bands") such as to be offered by the hybrid space/ground PCS system proposed by CELSAT:

No. of Copies rec'd 0+11
List ABCDE

"We also concur with those parties that suggest some spectrum should be considered for satellite PCS use. Therefore, in order to preserve our options with regard to satellite-based services, at the same time we decline to allocate to PCS the 1970-1990 MHz and the associated 2160-2180 MHz bands that were designated for MSS at Warc 92." [Footnote omitted.] Id., 8 FCC Rcd at 7729, para. 63 and n. 63.

The Commission's tentative commitment was especially significant because, in effect, it acknowledged the uniqueness of this particular band pair -- namely, that the ET MSS band is the only spectrum that is earmarked both domestically and by the ITU for both ground and space mobile services (thus, it is ideal for a hybrid system); and, for all practical purposes, the ET MSS band pair would be immediately available for MSS use throughout the U.S. and World Region 2. Moreover, in contrast to any other potentially available MSS spectrum, a band clearing plan is already in place under the Commission's Emerging Technologies spectrum program adopted in Docket No. ET 92-9. The ET MSS spectrum is further unique in that the nature of the incumbent uses are such that they permit a high degree of interservice spectrum sharing and co-existence with certain planned MSS system designs, such that proposed by CELSAT.[1]

However, for various reasons expressed throughout the PCS MO&O, and also apparently in reliance on eleventh hour representations orchestrated by Motorola and four other representatives of the MSS community,[2] the Commission changed its mind and reneged on its previous commitment to Mobile Satellite Services. Instead, it divided the ET MSS band pair and split the 1970/1990 MHz segment into two unequal parts, in turn pairing them with additional ET spectrum below 2 GHz to form two new PCS allocations, block **F** (using the 1970/1975 MHz element) and block **C** (using the 1975/1990 MHz element). See, PCS MO&O,

---

1 See, CELSAT Amended Petition for Rule Making, RM 7927, July 21, 1993, pp. 32-40.

2 PCS MO&O, at para. 96 and n. 139. The so-called MSS coalition referenced in the PCS MO&O at n. 139 consisted of Comsat, TRW, AMSC, Lural/Qualcom and Iridium. Iridium, of course, is controlled by Motorola -- the party claiming credit for suggesting the new pairing of the former ET/MSS band. CELSAT was a member of the MSS Coalition but could not go along with the plan proposed by Motorola. See, *ex parte* letter from Victor J. Toth, counsel for CELSAT, Inc., to William F. Caton, dated May 27, 1994.

at para. 26. In recognition of the serious spectrum void that this change created for the domestic and international MSS industry, the Commission has offered to initiate a further proceeding to find and allocate alternative spectrum for MSS use or, depending on how the PCS MO&O is interpreted, possibly for only *international* MSS purposes. Id., para. 97. This petition offers an opportunity to fulfill at least the domestic part of that commitment.

CELSAT has an MSS application, pioneer's preference request and petition and amended petition for rule making pending, all proposing a *domestic* hybrid MSS/PCS system and service.[3] Indeed, at least partially in recognition of CELSAT's petition for rule making and of the uniqueness of the ET MSS bands, the Commission initially reserved the ETspectrum at 1970/1990 MHz for domestic MSS systems.[4] The Commission has now not only decided to allocate to PCS spectrum which was previously set aside for domestic MSS/PCS use, but it appears to have further focused its satellite priorities in favor of international rather than domestic systems. While CELSAT is unwilling to accept such a narrow interpretation of the PCS MO&O,[5] CELSAT nevertheless believes that it is going to be a most difficult and time consuming task for the Commission to find enough spectrum to reasonably satisfy the needs of either domestic or international MSS interests, let alone for both of them. Accordingly, CELSAT urges that the Commission clarify and reserve as

---

[3] See, Master System Application of CELSAT, Inc., filed April 8, 1994.; Pioneer's Preference Request, filed February 2, 1992, PP-28 and Amendment thereto filed December 22, 1993; and Petition and Amended Petition for Rule Making, RM 7927, filed February 6, 1992 and July 21, 1993, respectively.

[4] See *Second Report and Order,* Id., 8 FCC Rcd. at 7714, para's 28 - 29, and p. 7729, para. 63 and n. 63.

[5] In contrast to the apparent limited commitment for global-only MSS inferred at para. 96 of the PCS MO&O, the concurring statements of at least two Commissioners, Andrew Barrett and Rachelle B. Chong, emphasized an understanding that the Commission is equally committed to finding additional MSS spectrum for both domestic and international systems. CELSAT has assumed that the intention reflected in the separate statements of these Commissioner's (as well as in the Commission's News Release reporting the action in this docket) most accurately reflect the Commission's broader intent.

an immediate option a plan to further re-allocate the subject band (1970/1990 MHz) for domestic MSS use on a secondary basis.[6]

A Secondary Allocation for MSS Would Enhance
But Not Interfere With the Intended Primary PCS Allocation

To clarify, what CELSAT is proposing is that the Commission overlay a secondary MSS allocation on the terrestrial PCS primary allocations across each of the two PCS blocks F and C spaning 1970/1975 MHZ and 1975/1990 MHZ, respectively.[7] Under this scheme an authorized domestic MSS or hybrid satellite system would be licensed to operate and provide space-based PCS services nationwide in the subject bands so long as it did not interfere with the operation of any terrestrial PCS system licensed on a primary basis in any market and in either block. Such an allocation would offer many benefits with virtually no downside whatsoever. Moreover, it would be extremely spectrally efficient and, at least with the CELSAT system, it is technically and economically feasible.

As CELSAT has explained at length in its application and amended petition for rule making, the CELSAT hybrid system has unique features and operational capabilities which permit it to co-exist with other users of the same spectrum, both on an intra- and interservice basis. As to the latter, CELSAT's very

---

[6] CELSAT had proposed the secondary MSS allocation to the MSS consortium in the course of its deliberations over the so-called Motorola PCS spectrum re-allocation. All MSS particiapnts except Iridium (again, controlled by Motorola) favored the suggestion. Thus, the consortium chose not to make the suggestion to the Commission in its May 27 *ex parte* comments. CELSAT, however, filed its own *ex parte* letter contemporaneously with the MSS consortium in which CELSAT made the secondary allocation suggestion to the Commission. See, Toth letter to William F. Caton, May 27. 1994.

[7] To the extent that the Commission might be disinclined to adopt such a secondary allocation in the context of this docket (i.e., GEN Docket No. 90-314), CELSAT will follow-up this petition with a further amended petition for rule making in the context of RM 7927. CELSAT submits, however, that inasmuch as MSS is, indeed, an acknowledged form of PCS, either proceeding would be a suitable vehicle for the proposed secondary MSS allocation.

large antenna and correspondingly low power handsets, very small and controlable geographic space cells, the directionality of its transmitted space signal, and its ability to detect location and thereby control and selectively assign (or deny) spectrum subbands to the mobile users all combine to make it feasible to co-exist with incumbent microwave systems on an interservice sharing basis. [8] These same technical capabilites will be transparent to whether the incumbent or other interservice users involve fixed microwave systems or new, terrestrial PCS systems -- CELSAT can co-exist with either or both.

PCS licensees, meanwhile can be assured that the primary status of their licenses and allocations will not be interfered with by CELSAT or other operating hybrid or MSS system authorized in the subject bands on a secondary basis. If the PCS parties are alerted in advance, as this petition seeks to ensure, it would be reasonable that PCS operators would choose to operate their mobiles in the transmit direction in their respective bands between 1970 and 1990 MHZ, while receiving in the corresponding matching bands (i.e., 1895/1910 MHz for Block C, and 1890/1895 MHz for Block F). Inasmuch as the MSS system would be transmitting to its mobiles in a different band (i.e., 2160/2180 MHz) [9] there would be no interference to the PCS mobiles from MSS satellite transmissions. As for potential interference from MSS mobile transmissions received at PCS base stations the CELSAT system has the unique capability to not

---

[8] For a more complete technical explanation of CELSAT's spectrum sharing capability refer to CELSAT Master System Application, pp. 13 and 17 and Appendices A-8, A-9 and I, and CELSAT Amended Petition for Rule Making, RM 7927, pp. 32-35.

[9] This proposal contemplates that the Commission would continue to recognize the utility of the 2160/2180 MHz band for doemstic MSS use and allocate it accordingly on a primary basis, paired with the secondary allocation at 1970/1990 MHz as proposed herein. As it stands now, the 2160/2180 MHz band has been rendered a useless orphan band for all FDMA MSS purposes. (Interestingly, the band has not been rendered useless for Motorola's purposes. As the only TDMA MSS system, Iridium stands to enjoy exclusive access to another 20 MHz of available spectrum.) Thus, the complete scheme proposed here might go a long way toward at leasting meeting the short term needs of the domestic MSS industry, thereby freeing the Commission to pursue global MSS needs elsewhere.

assign a potentially interfering frequency to a mobile user whenever it is within range of an incumbent fixed microwave or new PCS system. Thus, MSS mobile-to-PCS base station interference is also totally avoidable.

Clearly, the most conspicuous public benefit to be gained by permitting a secondary MSS allocation in the subject block C and F bands concerns the tremendous spectral efficiency that would result. Under the scheme proposed by CELSAT not a hertz of potentially available and usable spectrum would go wasted. Wherever the frequencies were not being used geographically by an operating PCS system (such as in remote and sparsely populated areas) they would be usable by an MSS system at least until a PCS capability was built out in the space cell region. Moreover, if properly coordinated in advance (again, something this petition seeks to ensure through prompt Commission action in this proceeding), it is possible that the same PCS handset could communicate transparently to both the MSS space system and the PCS system without any additional components, protocols or other costly subsystems. [10]

As for the private benefits, such a secondary allocation offers the potential for participating terrestrial PCS systems or even one large nationwide PCS licensee to attain universal coverage and ubiquity across the entire United States, Alaska, Hawaii, Puerto Rico, the U.S. Virgin Islands -- indeed, even Cuba, if permitted -- instantaneously upon the launch and operation of a single MSS satellite. Such expanded and readily available coverage beyond their PCS market areas would provide an immediate competive advantage over other PCS systems and the establsihed cellular industry, and would be very attractive to their end users. It would ensure a much quicker and larger return on their PCS investments and facilitate the necessary build-out of their systems in compliance with the Commission's licensing conditions at the least cost and least risk. (Indeed, even the government would benefit to the extent that the added value of a

---

[10] Hopefully, the PCS licensees would be amenable to employing a compatible CDMA multiplexing scheme in their handsets. Otherwise, some of the potential utility of the MSS secondary operation in the subject bands might be lost to those systems which choose to employ different schemes, such as TDMA.

secondary MSS operation in the same spectrum would enhance the value of the PCS primary spectrum allocation at auction time, and otherwise better ensure that any preferred category parties bidders are able to be profitable and thereby meet their bid payment obligations.)

Conclusion

The benefits and advantages, both public and private, to the limited scheme of secondary MSS allocation in the ET MSS band at 1970/1990 MHz are not only obvious but endless. It is a win-win-win-win proposition for everyone involved -- the PCS auction winners, the MSS licensee,the public and the government. However, in order that this opportunity not be lost forever, it is critical that the FCC give this petition prompt consideration and adopt the recommendation herein quickly so that potential PCS bidders/licensees are placed on notice well in advance of the auction and the award of licenses. Should the auction occur before at least notice of a possible secondary allocation in the subject band is forthcoming it will certainly otherwise cloud the license process and practically if not legally foreclose any Commission opportunity to adopt a secondary allocation later. In addition, potential bidders will need time to evaluate their system potential, select technology, and adjust their bids, etc., in light of the added possibilities which a secondary allocation offers.

Accordingly, the Commission is respectfully requested to reconsider its PCS MO&O in the foregoing respect, and amend it to include a secondary allocation in the 1970/1990 MHz band for domestic MSS (to be paired with a primary allocation for MSS at 2160/2180 MHz).

Respectfully submitted,
CELSAT, INC.

By: _____
Victpor J. Toth

Law Offices, Victor J. Toth, P.C.
2719 Soapstone Drive
Reston, VA 22091
(703) 476-5515

Dated: June 29, 1994