BEFORE THE

Federal Communications Commission

WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Utilities Telecom Council and Winchester Cator, LLC	)	RM No. 11429
	)	
	)	
Petition for Rule Making to Establish Rules Governing Critical Infrastructure Industry Fixed Service Operations in the 14.0–14.5 GHz Band	)	)

To: The Commission

OPPOSITION OF SEAMOBILE INC.

SeaMobile Inc. ("SeaMobile"), by its attorneys and pursuant to Section 1.405 of the Commission's Rules, 47 C.F.R. § 1.405, hereby opposes the above-captioned Petition for Rule Making ("Petition") jointly submitted by the Utilities Telecom Council ("UTC") and Winchester Cator, LLC (together, "Petitioners"). Petitioners request that the Commission commence a rulemaking proceeding to amend the Commission's Rules to permit shared, secondary terrestrial fixed service ("FS") use of the 14.0-14.5 GHz band for "critical infrastructure industry" ("CII") and conventional terrestrial wireless communications. Because Petitioners' request is both unnecessary and unworkable, the Commission should deny the Petition outright.

SeaMobile submits these comments from its perspective as the world's leading provider of maritime and remote location communications, connectivity and

content services. Primarily through its MTN Satellite Services division (which includes pioneer Earth Stations on Vessels ("ESV") operator Maritime Telecommunications Network, Inc. ("MTN")), SeaMobile relies on the Ku-band spectrum targeted by Petitioners for communications using its Very Small Aperture Terminal ("VSAT") and ESV networks, as well as conventional and temporary-fixed earth stations. The services delivered by SeaMobile to locations around the globe meet a wide range of broadband needs, including voice and data networks, mobile phones, PDAs and laptops, Internet cafés, live television, electronic newspapers, and financial services. Customers include all major commercial cruise lines, the U.S. government and military, private yacht owners, ferries and operators of offshore oil facilities.

SeaMobile delivers its extensive menu of services reliably and around the clock in large part because of the predictability that results from operating as an authorized primary fixed-satellite service ("FSS") licensee in the unencumbered 14.0-14.5 GHz band. Because it is not shared with wireless users, the Ku-band permits SeaMobile to ubiquitously deploy VSAT and ESV remotes authorized under its blanket licenses. The unencumbered nature of the Ku-band also makes it a desirable choice for SeaMobile's temporary-fixed earth stations, which may be deployed virtually anywhere in the country on a moment's notice. Looking to the future, SeaMobile anticipates extensive use of the Ku-band using licensed vehicle-mounted earth stations ("VMES"). Indeed, SeaMobile has already deployed VMESs

outside the United States, and is primed to do so domestically immediately upon authorization of the service by the Commission.[1]

These existing and future services are only possible because they operate, or will operate, in a flexible spectrum environment free of wireless users. Allocating a secondary FS to the 14.0-14.5 GHz band will sacrifice that flexibility without providing CII entities a reliable spectrum home of their own. In the absence of a compelling reason justifying the drastic step that Petitioners would have the Commission take (and Petitioners certainly offer no such reason here), the Petition should be denied.

I. Petitioners Ignore Underutilized FS Bands Better Suited For CII Operations.

As a threshold matter, SeaMobile submits that Petitioners' preference for the 14.0-14.5 GHz band for CII communications is badly misplaced and, in any event, unnecessary. The sole justification Petitioners offer in support of the shared use of the FSS band is the unsupported and superficial assertion that the proposed allocation will relieve the congestion that UTC's members experience in their existing bands by establishing a reliable FS spectrum source elsewhere, specifically in the Ku-band. Petition at 8. That rationale, however, utterly ignores the existence of whole segments of lightly used or even largely unused *primary* FS spectrum in other frequency bands (*e.g.,* the 27 GHz, 38 GHz and 71 GHz bands)

[1] The 14.0-14.5 GHz band is generally reserved internationally for satellite use only. Importantly, were the Commission to adopt Petitioners' allocation scheme, SeaMobile and others would be compelled to operate their VMES and other networks in two wholly different environments – a domestic one that permits secondary shared used by the FS and an international one that does not.

that are far less encumbered than the Ku-band. Petitioners nowhere address the fundamental question why 14.0-14.5 GHz is their band of choice when alternative spectrum pre-suited to promote the very reliability that Petitioners claim to seek is available and better fitted for their needs. Unless that question is adequately answered, the Commission has no basis to even seriously consider Petitioners' request.

Petitioners express their desire to secure "dedicated" spectrum to support their important public safety services. Petition at 5. While no one questions the importance of CII operations, SeaMobile fails to understand how Petitioners' "dedicated" spectrum objective can be squared with their request for a secondary allocation, which deliberately places CII operations in an inherently unpredictable operating environment. The technical report accompanying the Petition states that CII links "have to be highly reliable (99.999%)." Petition at RKF Report at § 2. Yet that level of reliability is simply unattainable for operations on a secondary basis.

Put another way, Petitioners apparently underestimate the likelihood of interference from primary FSS, especially in connection with emergency situations. When national disasters or other emergencies strike, multiple relief agencies often respond to the scene at once, resulting in a convergence of large numbers of FSS and wireless terminals. SeaMobile's MTN, for example, was just one of many entities that established emergency communications links in the Gulf Coast area in the wake of Hurricane Katrina. Concentrated numbers of terminals transmitting in a limited area unavoidably risk compromising secondary operations – either in

terms of causing the unprotected secondary service harmful interference and/or in terms of requiring the cessation of the secondary service operations due to harmful interference those operations cause to primary FSS operations – which is an untenable scenario for CII users that ostensibly require "dedicated" spectrum. Highly reliable links require primary, not secondary, spectrum allocations, and for CII operations that can only mean spectrum other than at Ku-band.[2] For this reason, the Commission should reject Petitioners' call for a secondary FS use of the Ku-band.

II. Petitioners' Sharing Scheme Fails To Adequately Protect FSS Operations.

Even if shared use of the Ku-band could somehow be justified, the Petition must be denied because it does not offer a workable means of assuring the required protection of the FSS. Petitioners recommend steps that they claim will avoid interference with satellite uplink services, *see* Petition at 13-14, but these steps prove woefully insufficient because they are premised on faulty assumptions and incomplete consideration of existing and future users of the band.

Petitioners first make the mistake of relying on the incorrect assumption that CII entities can avoid harmful interference by meeting a 6% $\Delta T/T$ criterion.

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[2] SeaMobile is wary that Petitioners' call for secondary operations in the 14.0-14.5 GHz band will inevitably lead to ensuing requests for primary CII use of the band. Whether or not primary authority is the ultimate goal of Petitioners at this stage is beside the point. Eventually the CII user community, frustrated at not being able to establish reliable communications in the 14.0-14.5 GHz band on a secondary basis, will again come before the Commission seeking even broader use of the Ku-band for, and heightened protection of, its "critical" services. SeaMobile urges the Commission to close the door on any subsequent spectrum demands by denying the preliminary request for secondary operations at issue now.

Petition at RKF Report at § 2, n.2. That criterion, however, is the level for interference between *co-primary applications* in the FSS. International technical recommendations allocate only a 1% ΔT/T level for interference from all non-primary sources, such as CII operations proposed by Petitioners. CII operators in the 14.0-14.5 GHz are, therefore, entitled to only a fraction of 1%, and not the 6% relied upon by Petitioners.

Petitioners also rely on a 5-degree off-pointing requirement that they maintain will protect geostationary orbit ("GSO") FSS uplink operations. Petition at 13. No mention is made, however, of the impact that this pointing requirement will have on non-geostationary orbit ("NGSO") FSS, which themselves protect the GSO arc by operating at angles away from the GSO. Indeed, no mention is made at all of NGSO protection.

Similarly, Petitioners are silent on protection of secondary mobile-satellite service systems that operate on FSS satellites in the 14.0-14.5 GHz band. These services are provided using spread-spectrum modulation technologies, and not with narrow-band technologies, and thus would be severely impacted by the spread spectrum scheme Petitioners propose. The incomplete consideration of the Petitioners' proposed allocation on all affected users of the band renders inadequate their claim of interference protection.

SeaMobile submits that the sharing recommendations offered in the Petition prove unworkable for another reason – namely, their underlying assumption that protection levels purportedly adequate for today's FSS will necessarily prove to be

adequate for tomorrow's FSS. The Petition notes in several places the obligation to protect "existing" services from harmful interference, *see, e.g.,* Petition at 13, but curiously only mentions "potentially future operations" in the context of federal users of the 14.0-14.5 GHz band. Petition at 15. However, as Petitioners surely must know, a secondary operator is obligated to "not cause harmful interference to stations of primary services to which frequencies are already assigned or to which frequencies may be assigned at a later date." 47 C.F.R. § 2.105(c)(2)(i). The need to protect all *future* applications in the FSS is critical because impending advances in the VSAT industry promise newer, more sensitive applications that will enable highly saturated deployment of FSS terminals. The FSS industry has a long and spectacular history of innovation in Ku-band services – including VSATs themselves, SeaMobile's ESV innovation, aeronautical-mobile and land-mobile satellite services, and most recently VMESs – that are provided over FSS systems. Any spectrum sharing scheme that focuses only on today's FSS (as the Petition does) will freeze these technological in their tracks, and thus must fail.

III. The Commission Should Reject The Proposed Single Nationwide Licensee/Frequency Coordinator.

Petitioners support their case for shared spectrum by recommending the establishment of a single nationwide CII licensee that will both manage new FS services in the band and perform all necessary frequency coordination. Petition at 3. This exceedingly unusual approach to spectrum management should be rejected by the Commission for several reasons. First, it perverts the notion of frequency

coordination by equating a secondary allocation with a primary allocation. Coordination is reserved for co-primary services; secondary services have never before, and should not now, come into play. The burden on primary operators would be profound. Second, even if coordination of secondary operations were appropriate, transferring coordination duties to the sole CII licensee creates an obvious conflict of interest that use of an impartial frequency coordinator would avoid. Third, established coordination procedures involving recognized frequency experts, such as Comsearch, have been in place for more than 30 years. SeaMobile sees no reason, nor should the Commission, to jettison this proven system merely to put a plainly biased alternative in its place.

It appears that Petitioners are seeking free access to a band that will afford them a competitive edge over other terrestrial wireless providers that bid for their spectrum at auction. The Commission should see through this gambit and reject that effort.

IV. Conclusion

An unencumbered 14.0-14.5 GHz band is critical to the existing and future uses of the band by SeaMobile and other VSAT licensees. Allocating a secondary FSS service there, particularly where superior alternative spectrum choices exist, is both unnecessary and unworkable. For these reasons, SeaMobile urges the Commission to deny the Petition seeking shared secondary FS use of the 14.0-14.5 GHz band.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Rochelle D. Johnson, do hereby certify that on this 26th day of June, 2008, I sent by U.S. first-class, postage prepaid mail, a copy of the foregoing Opposition of SeaMobile Inc. to the following:

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