Before the
Federal Communications Commission
Washington DC 20554

In the Matter of		
Procedures to Govern the Use of Satellite Earth Stations on Board Vessels in the 5925-6425 MHz/3700-4200 MHz Bands and 14.0-14.5 GHz/11.7-12.2 GHz Bands		IB Docket No. 02-10

REPLY TO OPPOSITIONS TO
PETITION FOR RECONSIDERATION OF THE
FIXED WIRELESS COMMUNICATIONS COALITION

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Pursuant to Section 1.429(g) of the Commission's Rules, the Fixed Wireless Communications Coalition (FWCC) files this Reply to the Oppositions of Intelsat, Ltd. and Maritime Telecommunications Network, Inc. (MTN) to the FWCC's Petition for Reconsideration in the above-captioned proceeding.[1]

The Fixed Service (FS) uses the 5925-6425 MHz band to carry critical services such as dispatching police and fire vehicles, coordinating the movement of railroad trains, controlling natural gas and oil pipelines, regulating the electric grid, and backhauling wireless telephone traffic. Unlike earth station vessel (ESV) operations, which are highly intermittent at a given location, FS links use their spectrum full time.

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[1] *Satellite Earth Stations on Board Vessels*, 20 FCC Rcd 674 (2005) (Report and Order) (R&O). The FWCC is a coalition of companies, associations, and individuals interested in the Fixed Service -- *i.e.*, in terrestrial fixed microwave communications. Our membership includes manufacturers of microwave equipment, licensees of terrestrial fixed microwave systems and their associations, and communications service providers and their associations. The membership also includes railroads, public utilities, petroleum and pipeline entities, public safety agencies, cable TV providers, backhaul providers, and/or their respective associations, common carrier and private communications carriers, and telecommunications attorneys and engineers. Our members build, install, and use both licensed and unlicensed point-to-point, point-to-multipoint, and other fixed wireless systems, in frequency bands from 900 MHz to 95 GHz. For more information, see www.fwcc.us.

Many FS applications require 99.999% or 99.9999% availability. Just one ESV interference incident per year would violate either of these availability criteria and cause more service disruption than all other causes combined. Moreover, critical FS facilities operate disproportionately in coastal areas, where they are directly at risk of interference from ESVs.

The FWCC Petition noted that the Commission has always required an incoming technology to protect licensed incumbents. ESV proponents have resisted some of the measures needed to protect the C-band FS on the ground that those measures would increase their costs or impair service. But ESV providers, as the financial beneficiaries of their own operations, cannot object to paying the costs of safely squeezing their operations into already congested spectrum. FS operators should not have to subsidize ESV providers through higher costs or impaired service on critical FS links.

In order to avoid disruption from ESVs, the FWCC requested that ESVs be required to use Ku-band in U.S. waters. ESV interests vigorously resist that proposal. In the alternative, the FWCC made the following requests:

- C-band ESVs should be permitted to coordinate only the frequencies they actually use.
- Spectrum limitations on C-band ESVs should take into account the FS bandwidth actually impaired by ESV operations.[2]

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[2] More specifically: (1) The rule permitting an ESV provider to coordinate, at each location, a maximum of 36 MHz on each of two satellites should provide further that the coordination may not encumber more than two 30 MHz FS channel pairs. (2) The rule limiting collective coordination to 180 MHz should provide further that spectrum coordinated on only one side of an FS frequency pair counts twice against the maximum (because the coordination keeps the FS from using both sides of the pair), and that the collective coordination may not encumber more than three 30 MHz FS channel pairs. (3) The rule limiting spectrum actually encumbered on an FS link to 180 MHz likewise should count both sides of the frequency pair and not encumber more than three 30 MHz channel pairs. *See* FWCC Petition at 3-4.

- C-band ESVs should be limited to vessels of 5,000 gross ton minimum.

The FWCC explained these steps are necessary because an ESV coordination "sterilizes" the coordinated frequencies against FS use over a wide geographic area. Intelsat disputes this characterization. ESV-coordinated spectrum is not made unusable, Intelsat says, because the coordination takes into account the directionality of both the FS and ESV antennas. That fact is true but largely irrelevant. An ESV coordination (unlike a fixed satellite earth station coordination) must take into account that the antenna moves along a route that can be hundreds of miles long. Moreover, there is no terrain blockage that would otherwise limit the extent of potential interference conflicts with FS facilities. As a result, the ESV coordination sweeps out a vast area and locks in a "protected zone" within which at least one end of almost any co-frequency FS link (*i.e.*, the seaward-facing antenna) is likely to have difficulties coordinating. In practice, the ESV protected zones become "spectrum avoidance zones" with respect to subsequent FS facilities within 200 km of coastal waterways. This will impede the orderly expansion of existing FS systems and the deployment of new FS links. The FWCC's concerns about access to spectrum shared with ESVs are well founded.

MTN objects to the FWCC proposal that ESVs coordinate only the spectrum they need. With a straight face, MTN accuses the FWCC of seeking to "warehouse spectrum,"[3] even though MTN's apparent goal of coordinating unneeded frequencies is warehousing in its purest form. MTN complains also that the FWCC ignores the Commission's prior rejection of a proposal that

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[3] MTN at 2.

would have limited certain fixed earth stations to twice the spectrum they actually need.[4] Far from ignoring that ruling, the FWCC explained in some detail why it is inapplicable as precedent here.[5] MTN does not attempt to counter those arguments.

MTN objects further to the FWCC's request that spectrum limitations on ESVs consider the number of FS channels impaired, saying this request ignores or dismisses "the many operational conditions" imposed on ESV operators intended to protect the FS from harmful interference.[6] Yet MTN has asked the Commission to drop three of those operational conditions that are most important to protecting the FS.[7] In any event, the operational conditions intended to limit harmful interference to the FS, and the rules intended to limit ESV access to spectrum, serve complementary but different purposes. The operational conditions are largely safeguards to enforce ESVs' compliance with their obligations under coordination.[8] The spectrum limitations, in contrast, are meant to ensure that the FS has room to expand critical facilities despite ESV proliferation. These sets of rules are not interchangeable.

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[4] MTN at 3, *referring to Partial-Band Licensing of Earth Stations*, 17 FCC Rcd 2002 at para. 4 (2002).

[5] FWCC Petition at 10-11.

[6] MTN at 2-3.

[7] MTN asked the Commission to eliminate requirements (1) for public notice of the details of ESV coordination; (2) for ESV shut-down in response to objections to coordination during the 30-day public notice period; and (3) for coordination within 200 km of an offshore FS facility. Petition for Clarification and/or Partial Reconsideration of Maritime Telecommunications Network, Inc. (filed March 2, 2005).

[8] These include, for example, automatic shut-off and record-keeping requirements, in addition to the elements MTN seeks to eliminate on reconsideration.

Like MTN, Intelsat objects to considering the mismatch between ESV and FS channel boundaries, and the FS's use of Commission-mandated channel pairings, to evaluate the FS spectrum actually encumbered.[9] At the same time, however, Intelsat concedes, "[T]he Commission's stated goal was to more generally ensure that spectrum would be available to FS operators for new links."[10] And Intelsat does not dispute the FWCC's showing that the current rules permit a single ESV provider to encumber fully half the FS spectrum in the band, or the industry as a whole to encumber 3/4 of the FS spectrum.[11]

Intelsat attempts to reconcile its seemingly inconsistent positions with three arguments. First, it says, the facts of channel mismatch and FS frequency pairing are "well-known, and [] not at all unique to this coordination scenario."[12] We take this to mean that the same factors affect the coordination of a fixed earth station. As noted above, however, the vastly greater geographic areas tied up in ESV coordinations justify a closer look at the spectrum they constrain. Second, Intelsat argues that these same factors impinge as much on ESV coordination as on FS coordination.[13] This is partially true but wholly irrelevant, having no bearing on the question at issue: whether the ESV spectrum limitations presently in the rules allow the FS enough bandwidth for expansion. Third, Intelsat insists the Commission has consistently described its approach as limiting the amount of spectrum an ESV can coordinate, not the impact of the

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[9] *See generally* Intelsat at 3-9.

[10] Intelsat at 8-9.

[11] FWCC Petition at 11-14.

[12] Intelsat at 6.

[13] Intelsat at 7.

coordination on FS operations.[14] We disagree; the R&O plainly refers to the amount of spectrum "*actually encumbered*" by ESV operations."[15] In any event, Intelsat is committing the logical fallacy of assuming the point to be proven. Re-asserting the element as to which reconsideration is sought -- spectrum encumbered *vs*. spectrum coordinated -- is not an argument against reconsideration.

Finally, the FWCC explained why limiting C-band operation in U.S. waters to vessels of 5,000 gross tons or larger is necessary to protect the FS and consistent with the reasoning of the R&O.[16] No party has presented any facts or argument to the contrary.

CONCLUSION

The recently adopted ESV rules have the unintended effect of leaving very little spectrum available for use by the FS. The FWCC requested reasonable changes to resolve that problem while still allowing the ESV industry adequate spectrum to function effectively. None of the

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[14] Intelsat at 7.

[15] R&O at para. 40 (emphasis added). *See also* para. 41 ("these measures assure that ESVs *encumber* only a portion of the C-band spectrum") (emphasis added).

[16] FWCC Petition at 8-9.

objections raised in the oppositions of MTN and Intelsat outweigh the public interest in reliable FS communications to serve public safety and critical infrastructure needs.

Respectfully submitted,

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May 4, 2005

CERTIFICATE OF SERVICE

I, Deborah N. Lunt, a secretary with the law firm of Fletcher, Heald & Hildreth, PLC, do hereby certify that a true copy of the foregoing Reply to Oppositions to Petition for Reconsideration was served, by hand delivery, this 4th day of May 2005, upon the persons named on the attached service list, except that persons marked with an asterisk were served by U.S. mail postage prepaid.

/ s /

Deborah N. Lunt

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