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Before the
Federal Communications Commission
Washington, D.C. 20554

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In the Matter of)
)
Amendment of Parts 2 and 25 to Implement)
the Global Mobile Personal Communications)
by Satellite (GMPCS) Memorandum)
of Understanding and Arrangements)
)
Petition of the National Telecommunications and)
Information Administration to Amend Part 25 of the)
Commission's Rules to Establish Emission Limits for)
Mobile and Portable Earth Stations Operating in the)
1610-1660.5 MHz Band)

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY
RM No. 9165

To: The Commission

REPLY COMMENTS OF INMARSAT LTD.

Inmarsat Ltd. ("Inmarsat"), by counsel and pursuant to Section 1.415 of the Commission's Rules, hereby submits its reply comments in the above-captioned proceeding.¹

I. Introduction

Inmarsat generally supports the Commission's effort to implement the GMPCS MoU quickly. As Inmarsat stated in its original comments in this proceeding, it is essential that the Commission adopt rules that will, to the maximum extent possible, promote the development of GMPCS. Toward this end, the Commission must do two main things. First, the Commission must ensure that its emission standards for GMPCS terminals do not impose unreasonable burdens on the provision of GMPCS services.

¹ Notice of Proposed Rulemaking, IB Docket No. 99-67, RM No. 9165, FCC 99-37 (released March 5, 1999)("NPRM").

Second, the Commission must not adopt terminal certification requirements that will impose unnecessary and unreasonable burdens on operators or consumers.

Many commenters agreed with Inmarsat's comments on these points. Some commenters, however, raised arguments in their comments that Inmarsat addresses in these reply comments.

II. Out of Band Emission Limits

A. Inmarsat Terminals

A number of commenters agreed with Inmarsat with respect to treatment of currently operating MSS terminals under the proposed emissions standards. Comsat notes that Inmarsat land-based and maritime terminals pose a minimal threat to GLONASS operations owing to the distance from any airport at which such terminals typically are operated.² AMSC and Norcom agree with Inmarsat that recall of currently operating terminals would cause tremendous financial hardship to both operators and customers.³ AMSC and Norcom further note that it is uncertain whether GLONASS will be implemented in the United States by 2005, or ever.⁴ While Inmarsat fully appreciates the concerns of the aeronautical community regarding protection of radionavigation services,⁵ there is strong consensus that the Commission must balance the marketplace realities noted above against the small risk to such services in crafting appropriate protective measures.

² Comments of Comsat Corporation ("Comsat") at 17.

³ Comments of AMSC Subsidiary Corporation ("AMSC") at 15 (estimating cost of 60 to 80 Million Dollars); Comments of Norcom Networks Corporation ("Norcom") at 5 (2 to 3 Million Dollars).

⁴ AMSC at 14; Norcom at 9.

⁵ *See, e.g.*, Comments of Aeronautical Radio, Inc. ("ARINC").

As Inmarsat noted in its comments, unwanted emission limits have been studied extensively, but no consensus has been achieved as to appropriate standards.⁶ Without reexamining the methods by which the proposed emission limits were established, Inmarsat believes that other options exist to allow continued operation of those of its terminals that do not meet such limits. For instance, Inmarsat supports Comsat's suggestion that the Commission could place geographical restrictions on some terminals in the form of airport exclusion zones.⁷ This is eminently feasible with respect to land and maritime Inmarsat terminals.⁸ Further, Inmarsat strongly agrees with those parties who urge the Commission not to adopt a rigid date-certain for implementation of the new emission limits, but rather, to make such date contingent upon the likely progress of domestic GLONASS implementation.⁹ Contrary to the arguments of some parties,¹⁰ Commission flexibility in this matter will lead to the least disruption and hardship for MSS users and operators without causing harm to the establishment of GNSS operations.

B. Other Out of Band Emission Limits Issues

Several parties suggest the extension or modification of the proposed out of band emission limit standards for GMPCS terminals to encompass other interference issues.¹¹

⁶ Indeed, a number of parties, including Inmarsat, pointed out that the limits calculated to protect GNSS operations were based on an unlikely worst-case scenario and are far from being agreed upon as necessary. *See* Comments of Norcom at 6; Comments of Constellation Communications, Inc. ("Constellation") at 12; Comments of Hughes Network Systems ("Hughes") at 2.

⁷ Comsat at 17.

⁸ To the extent that there is any merit to the unsubstantiated claims of Rockwell Collins, Inc. ("Rockwell"), regarding the increased safety concerns generated by the close proximity of several U.S. airports with major waterways, such measure would allay these concerns. *See* Comments of Rockwell at 4.

⁹ *See* footnote 4 *infra*.

¹⁰ Joint Comments of L/Q Licensee, Inc., Globalstar L.P., and Airtouch Satellite Services U.S., Inc., ("Globalstar") at 24.

¹¹ Comments of The National Academies (protection of radio astronomy); Comments of Motorola, Inc., at 12 (protection of Iridium frequencies); Comments of the U.S. GPS Industry Counsel at 17 (protection of GPS services other than aeronautical).

In general, Inmarsat urges the Commission not to address any of these additional issues at this time in order to avoid undue delay.

Inmarsat is concerned by Rockwell's proposal that in order to ensure the safe operation of a GNSS precision landing system, the remaining aggregate out of band emissions between 1559 and 1605 MHz must be held at least 10 dB below the out of band emissions of MSS terminals operating in the 1610-1660 MHz band.¹² Rockwell bases this position on its claim that the proposed MSS limits were computed for the out of band emissions from one Big LEO MSS terminal operating in the 1610-1626.5 MHz band and that operation of such a terminal near an airport "will use virtually all of an aeronautical GNSS receiver's external interference allowance."¹³ Rockwell maintains that "[t]he computation and the resulting limits did not take other sources of out of band emissions from non-Big LEO terminals operating in the 1610-1660 MHz band into account."¹⁴ Rockwell further states that "it can be reasonably assumed that there may be up to 5 simultaneous mobile emitters present [within 30 meters of an aircraft on precision landing approach] other than a Big LEO terminal."¹⁵ Thus, Rockwell urges that "an additional multiple entry factor of -7 dB should be applied such that the maximum for any of these additional emitters is 17 dB below the MSS limits (i.e., -87 dBW/MHz broadband and -97 dBW narrowband.)"¹⁶

It is unclear whether Rockwell considers Inmarsat terminals operating in the 1626.5-1660 MHz band to be among those non-Big LEO L-band terminals which should be subject to even stricter emission limits than proposed by the Commission. To the

¹² Rockwell at 4.

¹³ Id.

¹⁴ Id.

¹⁵ Id.

extent that Rockwell intends to include such terminals under its stricter standard, the Commission should reject its proposal. As discussed above, the emission limits proposed for the protection of GNSS precision landing purposes are based on worst-case assumptions that simply are not applicable to the real world. Rockwell's suggestion that up to six MSS terminals may be gathered together within 100 feet of the end of an airport runway is just such an assumption and is totally unsupported by any evidence. Absent a more concrete and realistic showing, the Commission should reject any attempt to apply an even harsher emission standard to Inmarsat terminals.

II. Terminal Certification/ITU Registry Mark Issues

A. Ship and Aircraft Terminal Certification

A number of parties join Inmarsat in supporting the Commission's proposal to exempt terminals permanently installed on ships or aircraft from its certification requirements.¹⁷ However, other parties opposed this exception. Globalstar, for example, states that the NPRM offers "no justification for such disparate treatment" and claims that such an exemption is an unnecessary complexity.¹⁸ Globalstar is mistaken. It is the inclusion of such terminals within the certification requirement that would constitute the unnecessary complexity.

The purpose of the instant proceeding is to facilitate and at the same time monitor the free flow of hand-held and portable personal communications devices across international borders. To that end, the Commission has proposed a sensible set of requirements that will allow both it and customs officials monitoring such traffic to be sure that terminals used in the United States operate in compliance with the

¹⁶ Id.

¹⁷ Comments of Boeing Company ("Boeing") at 4; Comsat at 3; Constellation at 3.

Commission's technical requirements. However, terminals permanently affixed to aircraft, boats or ships are not subject to the same circumstances with respect to circulation and operation as are hand-held and portable terminals. Instead, such terminals are subject to a variety of regulatory requirements concerning geographical range, on-board operational parameters, safety, navigation, access and installation that are encompassed in the various licensing procedures to which these terminals are subject and which incorporate the same kind of technical information that would be required in connection with type acceptance or type approval certification. The addition of certification requirements for such terminals would be needlessly duplicative, time consuming and costly. Furthermore, such a requirement would be meaningless in terms of streamlining the roaming capability of hand-held and portable terminals. Thus, the Commission should reject Globalstar's position and exempt terminals permanently affixed aboard ships and aircraft from its certification requirements as proposed.

B. Exemption of Currently Authorized Terminals

In the NPRM, the Commission proposed to further exempt from its certification requirement domestic MSS terminals already operating or authorized pursuant to a license under Part 25 of the rules. Inmarsat supported this grandfathering measure in its comments. However, Inmarsat noted that this proposal would appear to create a regulatory imbalance in light of the Commission's proposal to require all GMPCS terminals imported into the United States for use to carry an ITU Registry mark. Inmarsat was not alone in noting this apparent disparity.¹⁹

¹⁸ Globalstar at 7.

¹⁹ Constellation at 8; Comsat at 7.

The Commission should clarify that its grandfathering proposal extends to both the domestic certification process and the international ITU Registry mark process. In each case, the rationale is the same. Terminals operating under blanket licenses already have been reviewed by the Commission for compliance with technical requirements. Thus, further review under a foreign or domestic certification process would be both needlessly duplicative as well as disruptive and expensive. With respect to the Commission's concerns regarding passage of such unmarked terminals through customs inspections, Inmarsat again reiterates its earlier commitment to work with the Commission to develop a list of terminals which have been approved under the Commission's licensing process and which therefore should be allowed to enter the United States for domestic use without the ITU Registry mark.²⁰

C. Terminals Not For Use

Inmarsat continues to believe that a terminal imported into the United States for purposes of transit only and not for use should not be required to bear an ITU Registry mark for the simple reason that such terminals will not operate within the United States and therefore pose no threat of interference. Inmarsat notes the concerns of some parties regarding the potential threat of unauthorized use of terminals within the United States.²¹ However, Inmarsat believes that such fears (to the extent they are warranted) can be alleviated by other means. For instance, Inmarsat agrees with Globalstar's position that holding satellite service operators responsible for blocking service to GMPCS terminals that are not approved for use in the United States is sufficient where such satellite operators have the technical capacity to block or deny service to GMPCS terminals that

²⁰ See also Comsat at 8.

²¹ AMSC at 13.

are not properly authorized.²² AMSC also notes, albeit with reservations, a number of non-technical options available such as strict service contract language including express geographical prohibitions and automatic service termination mechanisms.²³ Given the technical and non-technical safeguards that are available, Inmarsat urges the Commission to make its implementation of the GMPCS MoU no more burdensome than is necessary by permitting unmarked mobile terminals to enter the United States for transit only.

On the other hand, Inmarsat strongly disagrees with AMSC's suggestion that, where evidence exists that a GMPCS operator's terminals are being used illegally in the United States, the Commission should block the entry of any more of that operator's terminals until the operator can demonstrate that it can prevent such use.²⁴ Inmarsat believes that such a solution is too draconian, in that it could have the effect of penalizing thousands of legitimate users of the system's terminals (including those simply attempting to pass through a U.S. airport) through the mere allegation of one person's wrongdoing. Such a measure would disserve consumers, the operator in question and the industry as a whole. Furthermore, such a proposal is open to abuse both in the United States and elsewhere. As the Commission is aware, many nations are looking to the United States as a role model in its implementation of the GMPCS MoU. Were the United States to adopt so harsh a measure as proposed by AMSC, other countries might very well follow suit. With such regulations in place the possibility of discrimination against any particular operator (including retaliatory discrimination for perceived ill treatment) would greatly increase. Thus, while Inmarsat supports reasonable Commission efforts to discourage unauthorized MSS operations within the United States,

²² Globalstar at 9.

²³ AMSC at 13.

it urges the Commission not to adopt enforcement measures that would be unduly harsh or that would encourage vindictive or retaliatory abuse by operators or other administrations.

IV. Mandatory E911 Capability

The National Search and Rescue Committee (“NSARC”), the United States Coast Guard (“USCG”), the Association of Public Safety Communications Officials International, Inc. (“APCO”) and the National Telecommunications and Information Agency (“NTIA”) have all proposed that the Commission mandate E911 capability for GMPCS terminals.²⁵ On the other hand, most industry commenters oppose such action, citing the extreme technical difficulties associated with its implementation.²⁶

Inmarsat believes that emergency services are extremely important and supports action by the Commission to encourage GMPCS operators to voluntarily supply such service. As demonstrated in the record, several current operators already have developed their own emergency response procedures. However, industry commenters are virtually unanimous in their belief that incorporation of E911 capability into currently operating terminals is too technically complex and expensive to be justified. By making E911 capability mandatory, the Commission could, in fact, limit the options available to persons who find themselves in emergency situations by severely restricting the range of mobile terminals they would be permitted to use in the United States. A telephone is the first recourse to a traveler in an emergency. In any such instance, a mobile terminal without E911 is vastly superior to no mobile terminal at all. Inmarsat therefore agrees

²⁴ AMSC at 13-14.

²⁵ Comments of NSARC at 2; Comments of USCG at 6; Comments of APCO at 2; Comments of NTIA at 26.

²⁶ *See, e.g.*, Comments of Teledesic LLC at 11; Comments of ICO Global Communications at 6; Comments

with those commenters who believe it is premature to make E911 capability mandatory at this time.

V. Conclusion

Inmarsat applauds the Commission's efforts to promote the growth of MSS services. For the reasons set forth in its comments and herein, Inmarsat urges the Commission to implement rules pursuant to the instant proceeding in conformance with the suggestions made by Inmarsat.

Respectfully submitted,

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July 20, 1999

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