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

Federal Communications Commission  
Office of the Secretary

MAR 25 1992

Communications Division  
Radio Radio Branch

In the Matter of the )  
Applications of )

AMSC SUBSIDIARY CORPORATION )

File No. 420-DSE-P/L-90

For Blanket License for )  
30,000 Mobile Earth Stations )

ROCKWELL INTERNATIONAL CORPORATION )

File No. 933-DSE-P/L-90

For Blanket License for )  
15,000 Mobile Earth Stations )

GEOSTAR MESSAGING CORPORATION )

File No. 2306-DSE-P/L-89

For Blanket License for )  
10,000 Mobile Earth Stations )

COMMUNICATIONS SATELLITE CORPORATION )

File No. I-T-C-90-038

For authority pursuant to Section )  
214 of the Communications Act of )  
1934, to establish and operate )  
communications channels via the )  
INMARSAT system using a MARISAT )  
satellite and an earth station at )  
Southbury, Connecticut (WA-36) )  
for interim use by the authorized )  
domestic mobile satellite service )  
(MSS) carrier in its provision of )  
domestic MSS services )

In the Matter of )

Aeronautical Radio, Inc. and the )  
Air Transport Association of )  
America )

File No. I-S-P-90-002

Provision of Aeronautical Services )  
via the Inmarsat System )

Communications Satellite )  
Corporation )

File No. I-T-C-90-085

Application for Authority to )  
Provide Limited Aeronautical )  
Services within the U.S. via the )  
Inmarsat System )

To: The Commission

**OPPOSITION OF  
COMMUNICATIONS SATELLITE CORPORATION  
TO PETITIONS FOR PARTIAL RECONSIDERATION**

Communications Satellite Corporation ("COMSAT"), through its COMSAT Mobile Communications division, hereby opposes the Petitions for Partial Reconsideration filed by American Mobile Satellite Corporation ("AMSC") on March 5, 1992, and March 9, 1992, in these proceedings. AMSC seeks reconsideration in part of orders issued February 4, 1992 ("Interim Domestic LMSS Order") and February 6, 1992 ("Interim Domestic Aero Order") (collectively, "Interim Domestic Service Orders"). In those orders, the Commission ruled that entities other than AMSC may provide interim domestic land mobile and aeronautical services via INMARSAT space segment obtained from COMSAT until AMSC's system has become operational.

**I. AMSC'S PROPOSED TECHNICAL REQUIREMENTS ARE UNNECESSARY AND WOULD IMPOSE UNDUE COSTS, INHIBITING INTERIM DOMESTIC SERVICE.**

AMSC proposes four technical requirements for terminals used in conjunction with interim domestic land mobile and aeronautical services. AMSC does not claim that these proposed requirements are needed to ensure safe or effective operation of the interim domestic services. Rather, the sole ostensible purpose of AMSC's proposed requirements is to ensure "a seamless and inexpensive transition" to AMSC space segment. (AMSC LMSS Petition at 2.)

AMSC has not shown that any additional requirements are needed to ensure such a transition. The Interim Domestic Services Orders require interim service providers to submit transition plans within 90 days of the successful launch of AMSC's first satellite and to

shift their domestic traffic to AMSC space segment after it has become operational. Those requirements, coupled with the Commission's regulatory authority, are sufficient to ensure a smooth transition, while allowing interim service providers and users to find the most cost-effective means to provide high quality, low-cost interim service via INMARSAT space segment while planning for the ultimate transition to AMSC space segment.

In fact, AMSC's proposed requirements would likely lead to an inefficient and costly transition process, as well as delay in the introduction of service by additional interim service providers. Under AMSC's proposals, additional interim service providers (and users providing their own terminals) would have to have their terminals modified to meet AMSC's initial proposed requirements before they could initiate interim services. Further modifications would then be needed to implement preemptive and priority access standards. (See AMSC LMSS Petition at 5.) Finally, because of the evolving nature of AMSC's system specifications, it is likely that more modifications would be required before users could transition to the AMSC space segment. This three-stage modification process would be the antithesis of a "seamless and inexpensive transition."

AMSC has offered no rationale for its proposal to saddle interim domestic aeronautical services with its proposed technical requirements. In its Interim Domestic Aero Order, the Commission ruled that aircraft outfitted with INMARSAT type-approved aeronautical terminals for international flights may also utilize INMARSAT aeronautical services for domestic flights during the

interim period. Interim domestic aeronautical service will be provided principally or entirely by authorized INMARSAT aeronautical service providers, like COMSAT and IDB Aero-Nautical Communications, Inc., as an adjunct to their international services, and those service providers presumably will continue to provide aeronautical services via the INMARSAT system (and to the same customers, albeit limited to international flights) after the interim period. Under these circumstances, there is simply no justification for requiring aeronautical terminals designed and intended for use with the INMARSAT system to meet additional technical standards not needed for operation with that system.

While AMSC suggests that the costs of its proposed terminal requirements would be small (AMSC LMSS Petition at 3), the needed modifications would in fact impose substantial and unnecessary costs and inconvenience on interim service providers and users, as well as delay in the introduction of additional interim services. AMSC's proposed requirements in particular would greatly increase the cost of existing models now in full production, as well as imposing large costs on users already owning terminals.

AMSC's first proposal -- that terminals used for the interim services "should be capable of operating throughout the bands 1530-1559 MHz and 1626.5-1660.5 MHz" (Petition at 4) -- would require costly redesign and retrofitting of virtually all terminals now on the market that are designed for maritime and land mobile service via the INMARSAT system. For example, standard, off-the-shelf INMARSAT-C terminals are capable of operating within the bands

1530-1545 MHz (receive) and 1626.5-1646.5 (transmit).<sup>1</sup> More than fifteen manufacturers are now offering type-approved INMARSAT-C terminals, and many of these terminals are already in the hands of users. Modification of these terminals to meet AMSC's proposed requirements could potentially require redesign of the terminals' antennas as well as modifications to the terminals' RF systems.

AMSC's third proposed requirement -- that these terminals should be capable of working with AMSC's spot beams -- could similarly require expensive and unnecessary modifications to existing terminals, and may in any event be unachievable.<sup>2</sup> Type-approved INMARSAT-C terminals are designed to support INMARSAT spot beams, but usability with spot beam satellites depends on the protocols and technologies used, not just on maintaining a list of frequencies in memory. Again, costly modifications might be required. Because AMSC's system is not yet operating and its satellite specifications are not yet set, there is no way to test INMARSAT-C terminals for compatibility with AMSC's spot beams, and

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<sup>1</sup> INMARSAT-A terminals can operate only within the ranges 1535-1543.5 MHz (receive) and 1636.5-1645 MHz (transmit).

<sup>2</sup> The cost of satisfying AMSC's second proposed technical requirement -- that mobile terminals be capable of operating "at an EIRP of at least 10 db less than their nominal EIRP operating on the Inmarsat global beam" (AMSC LMSS Petition at 4) -- would appear to be somewhat more modest. However, AMSC again has not provided any basis for requiring such modifications. It is also not clear if AMSC's proposal would require modification of INMARSAT type-approved aeronautical terminals. While the EIRP of those terminals is adjustable over a range of 16 dBW (from 13.5 to -2.5 dBW for low gain systems and from 25.5 to 9.5 dBW for high gain systems), AMSC fails to define what it means by "nominal" EIRP in its proposal.

no way to ensure that modifications undertaken would be compatible with AMSC's final specifications.<sup>3</sup>

AMSC's fourth proposed requirement -- that interim service terminals be designed to provide real-time priority and preemptive access (Petition at 5) -- seeks to impose an aeronautical service requirement on terminals designed for maritime and land mobile applications. This proposal shoehorns on AMSC's first technical proposal, since there is no conceivable rationale for requiring such terminals to be designed to satisfy this aeronautical service specification unless the Commission first requires that these terminals be capable of operating in the upper L-band. As the Commission noted in the Interim Domestic LMSS Order, "any discussion regarding the protection of AMSS(R) operations in the upper L-band is premature [because] [t]he [interim domestic land mobile] authority requested by AMSC and Rockwell involves the lower L-band frequencies only."<sup>4</sup> It would be unprecedented and nonsensical to impose requirements on interim service providers

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<sup>3</sup> INMARSAT-A terminals are designed to operate on global beams and will so operate even in the future INMARSAT-3 spot beam environment. It is unlikely that users would undertake the cost of modifying existing INMARSAT-A terminals for use with AMSC's system. Hence, if any interim domestic service provider should seek to offer INMARSAT-A (voice) service, requiring terminals used with that service to be compatible with AMSC spot beams would effectively prevent the interim service.

<sup>4</sup> Interim Domestic LMSS Order, mimeo at 5; see also id. at 4 (stating that interim domestic LMSS providers wishing to continue providing service using the AMSC space segment must file a new application with the Commission, showing that their proposed ground segment is compatible with AMSC's space segment and that the ground stations satisfy upper L-band allocation requirements).

relating to the use of frequency bands in which they are not authorized to operate.<sup>5</sup>

The costs of terminal modifications that would be needed to meet AMSC's proposed initial requirements would depend to a large degree on economies of scale. Even for an interim service provider seeking to purchase and modify a large number of existing terminals, AMSC's proposed initial requirements could substantially increase -- perhaps even double -- the cost of the least expensive INMARSAT-C terminals. For end users already owning such terminals, the total retrofit expenses for individual terminals (not to mention the inconvenience) would be much greater. AMSC would have the Commission require interim service users to incur these costs now to equip their terminals for an AMSC space segment that may not materialize for several years or more, at which time the terminals may already have been replaced. Imposing such costs on interim service terminals could only serve to stifle the introduction of additional interim services and to impede the benefits the Commission sought to achieve in its interim service orders.

AMSC's proposed requirements might also benefit a few terminal manufacturers to the detriment of others. Manufacturers (such as AMSC affiliate Hughes Network Systems) developing INMARSAT-C-like terminals that either are already being designed to meet AMSC's

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<sup>5</sup> With regard to aeronautical service, type-approved INMARSAT aeronautical terminals incorporate standards for AMSS(R) traffic that have been developed over many years by INMARSAT working in conjunction with the Radio Technical Commission for Aeronautics and the International Civil Aviation Organization. To require interim service terminals to depart from those established standards in favor of developing AMSC standards would be senseless.

requirements or could be modified to do so prior to mass production might obtain a significant cost advantage over manufacturers that already have terminals in full production. If the effect of AMSC's proposed requirements were to narrow the equipment supply market to one or a few manufacturers, this would severely reduce user options, contrary to fundamental Commission policies.

The Commission's longstanding and often-stated policy is to allow market forces to operate where feasible. As long as interim service providers and users understand the requirement to transition to AMSC's space segment, they can appropriately weigh the costs and benefits in deciding whether to have existing terminals retrofitted (now or later) to be capable of accessing AMSC space segment, and whether and when to purchase off-the-shelf terminals (once available) that are capable of doing so. Absent artificial constraints, some interim service providers may reasonably decide not to incur the expense of modifying terminals until they have had an opportunity to test the market for domestic mobile satellite services. Users owning terminals may rationally decide not to incur modification costs now for a service they may not be able to access for several years or more (by which time they may have replaced their terminals). And manufacturers will decide the timing of their offering of AMSC-compatible terminals based on their assessment of the market. The Commission should not substitute regulatory fiat for such rational market choices.



**II. THE INTERIM SERVICE ORDERS' TRANSITION PLAN REQUIREMENTS FAIRLY AND APPROPRIATELY BALANCE THE INTERESTS OF AMSC, INTERIM SERVICE PROVIDERS, AND USERS.**

The Interim Domestic Services Orders require interim service providers to file with the Commission, within 90 days of AMSC's successful launch, a transition plan for moving their traffic to the AMSC system, and thereafter to shift their traffic to AMSC space segment. AMSC asks the Commission instead to require interim service providers to "work with AMSC from the start" to provide for the transition, with the "goal" of completing the transition "no later than 60 days" after AMSC's first satellite is operational. (AMSC LMSS Petition at 5-6.) COMSAT submits that the Commission should deny AMSC's request and retain its present requirements.

AMSC has shown no fault in the present requirements. Those requirements give interim service providers and users a clear mandate, and every incentive to coordinate transition plans with AMSC on a timely basis. AMSC and interim service providers are free to begin such planning whenever they deem it appropriate.

AMSC's proposal that interim service providers be required "to work with AMSC from the start" offers an amorphous requirement with no practical content. Moreover, it makes no sense to require interim service providers to begin developing plans for moving traffic to AMSC space segment until the specifications for that space segment are set. AMSC's proposed requirement could only engender an inefficient and ineffective charade, in which the participants purport to "plan" a transition to a space segment whose specifications are uncertain and subject to change. The

Commission's requirements provide as firm a basis for the future transition as can realistically be adopted at the present time.

AMSC's proposed "goal" of completing the transition within 60 days after AMSC's first satellite is operational offers another vague and artificial standard that adds nothing of substance to the requirements the Commission has adopted.<sup>6</sup> In its Interim Service Orders, the Commission made clear its intention to "assure that the transition from interim services to the domestic system will occur quickly, smoothly and efficiently,"<sup>7</sup> and the Commission has abundant authority to accomplish that goal.

**CONCLUSION**

For the foregoing reasons, the Commission should deny the AMSC Petition for Partial Reconsideration.

Respectfully submitted,

COMMUNICATIONS SATELLITE CORPORATION

By



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March 24, 1992

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<sup>6</sup> In any event, no transition can take place until at least one land earth station dedicated to the AMSC system is operational.

<sup>7</sup> Interim Domestic Aeronautical Order, mimeo at 3; see Interim Domestic LMSS Order, mimeo at 2-3.

CERTIFICATE OF SERVICE

I, Neal T. Kilminster, hereby certify that I have this 24th day of March 1992 caused a true and correct copy of the foregoing "Opposition of Communications Satellite Corporation to Petitions for Partial Reconsideration" to be served, by first class mail, postage prepaid, on the parties listed below:

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DECLARATION

I, Jeffrey B. Binckes, have reviewed the foregoing "Opposition of Communications Satellite Corporation to Petitions for Partial Reconsideration" and hereby declare under penalty of perjury that the facts contained therein are true and correct to the best of my knowledge and belief.

  
\_\_\_\_\_  
Jeffrey B. Binckes

March 24, 1992