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

JAN 29 1990

Federal Communications Commission ..  
Office of the Secretary

In the Matter of )  
Request for Waiver of )  
Table of Allocations ) File No. 10-DSS-MISC-90

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FEB 02 1990

Domestic Frequencies Division  
Satellite Radio Branch

COMMENTS OF AERONAUTICAL RADIO, INC., AND  
THE AIR TRANSPORT ASSOCIATION OF AMERICA  
ON REQUEST FOR WAIVER

AIR TRANSPORT ASSOCIATION  
OF AMERICA

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January 29, 1990

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## EXECUTIVE SUMMARY

ARINC and ATA submit that AMSC's requested waiver to utilize INMARSAT maritime frequencies for interim mobile satellite services can only be granted subject to the following conditions:

1. The waiver must be non-exclusive, i.e., it must not preclude other service providers from offering interim aeronautical services utilizing INMARSAT space segment. The Commission has not granted AMSC an interim service monopoly, and no economic, technical, or other policy grounds exist for restricting INMARSAT resale opportunities at this time.

Indeed, as the Commission previously has found in its Authorized Users decisions, requiring the insertion of such an unnecessary middleman would disserve the public interest.

2. Any land mobile units licensed by AMSC must be limited to a reasonable number and conditioned on meeting INMARSAT's existing design criteria. Ultimately, AMSC must demonstrate specifically that the design for all components in both its interim and dedicated systems will incorporate a) conformance with ARINC Characteristic 741, b) compliance with the requirements of RTCA SC-165, c) full compatibility and interoperability with INMARSAT, d) protection for aviation spectrum from land mobile users, and e) the capability for using INMARSAT to restore AMSC service.

3. The Commission should clarify and AMSC should acknowledge that INMARSAT and COMSAT, not AMSC as a reseller

of their services, will be responsible for controlling and administering the INMARSAT system and, in particular, protecting aviation safety during interim mobile satellite operations.

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THE AIR TRANSPORT ASSOCIATION OF AMERICA  
ON REQUEST FOR WAIVER

Aeronautical Radio, Inc. ("ARINC"), and the Air Transport Association of America ("ATA") hereby submit their comments on the request of American Mobile Satellite Corporation ("AMSC") for a waiver of the Table of Allocations in order to provide generic mobile satellite services in the Maritime Mobile Satellite Service ("MMSS") L-Band frequencies.<sup>1</sup>

AMSC states that the waiver is necessary because it "intends to offer service over the INMARSAT system" in order to "be able to provide mobile satellite services to the public substantially before its dedicated system is operational."<sup>2</sup> AMSC asserts that this interim service will permit it to develop the market, test equipment, acquire operational experience and, in particular, "refine its ability to administer the system to ensure that mobile satellite services can

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<sup>1</sup> AMSC Request for Waiver, FCC File No. 10 DSS-MISC-90 (filed December 18, 1989).

<sup>2</sup> Id. at 1-2 (footnote omitted).

be provided while protecting the integrity of aeronautical safety services."<sup>3</sup> By separate application, AMSC has sought blanket licensing authority for 30,000 land mobile satellite earth stations to operate with its land and maritime mobile services in the MMSS L-Band frequencies.<sup>4</sup>

ARINC and ATA have long been involved in planning for the introduction of aeronautical mobile satellite services ("AMSS"). The ARINC-sponsored Airlines Electronic Engineering Committee has developed ARINC Characteristic 741 which specifies the form, fit, and function of the avionics required for aeronautical satellite communications. ARINC and ATA have also been active with the FAA and RTCA in promoting and developing aeronautical satellite services, including participation in SC-165, which is developing performance criteria for the aeronautical satellite system itself. ARINC will begin to provide satellite service to at least two airlines in the second quarter of 1990.<sup>5</sup>

Additionally, ARINC has met with AMSC regarding its plans for providing aeronautical services. ARINC has presented AMSC with the airlines' service requirements and asked

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<sup>3</sup> Id. at 3.

<sup>4</sup> AMSC Application for Blanket License for 30,000 Mobile Earth Stations, FCC File No. 420-DSE-P/L-90 (filed Dec. 20, 1989).

<sup>5</sup> See Petition for Waiver of Sections 87.147 and 87.187 of the Commission's Rules for Type Acceptance and Maritime Frequencies, filed Nov. 27, 1989 (FCC Pub. Not. 1233, Jan. 10, 1990) ("Northwest/United Waiver").

AMSC to provide technical details on AMSC's system as part of a service proposal. These fundamental aviation requirements include conformance to ARINC Characteristic 741 and RTCA SC-165, full interoperability with INMARSAT's aeronautical services, and a technical analysis of the interference potential of AMSC with INMARSAT and other users of the shared L-Band spectrum and how this potential interference is to be avoided. AMSC has never responded to these initiatives of ARINC on behalf of the aviation industry.

Nonetheless, because of their desire to encourage the earliest possible introduction of aeronautical satellite services domestically, ARINC and ATA will remove their objection to AMSC's requested waiver, subject to the following clarifications:

- ° The waiver to use INMARSAT satellites operating in MMSS frequencies for other mobile satellite services must not preclude other service providers from using those facilities for aviation services, and must not divert scarce satellite resources -- power and bandwidth -- from other providers of aviation services.
- ° The land mobile units to be licensed by AMSC must be limited to a reasonable number until AMSC establishes that it has specific, validated safeguards incorporated into the mobile units to protect aviation safety services that will also be using the MMSS spectrum.
- ° The Commission should direct AMSC that, as a reseller, AMSC has no role in administering, controlling, or otherwise interfering with the operation of the INMARSAT satellite to "protect" aviation safety.

I. THE WAIVER TO USE MMSS FREQUENCIES FOR OTHER MOBILE SATELLITE SERVICES MUST BE NON-EXCLUSIVE

AMSC in this and related filings<sup>6</sup> attempts to subvert the Commission's processes by arrogating to itself authority never granted. Its filings try to stretch the grant of authority to launch and operate three mobile satellites operating in a specific frequency band into some form of economic monopoly over mobile satellite services generally, even those provided in other frequency bands. However, nothing in the Commission's mobile satellite decisions can be read to grant AMSC any exclusive authority to provide aeronautical mobile satellite service or any exclusive right to resell INMARSAT's space segment for mobile services.

In the Memorandum Opinion, Order and Authorization,<sup>7</sup> AMSC was granted only authority to construct and launch satellites to provide MSS and AMSS(R) services domestically. That authority is subject to a number of conditions, including a directive that AMSC file certain additional information within 120 days of grant. As shown in Comments filed under separate cover today, AMSC has failed to fulfill that condition by, inter alia, once again declining to give any details as to how its system will protect aviation safety services

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<sup>6</sup> E.g., Opposition of AMSC to Request for Waiver of ARINC and ATA, FCC File No. I-S-P-90-002 (filed Jan. 8, 1990).

<sup>7</sup> Domestic Mobile Satellite System Licensing Order, 4 F.C.C. Rcd 6041 (1989) ("AMSC Licensing Order").



from interference or how they can operate with INMARSAT in any of the frequency bands.<sup>8</sup> Thus, even that authority is precarious at present.<sup>9</sup>

In that same Order, the Commission expressly disclaimed any decision on the provision of interim mobile satellite service via INMARSAT or otherwise.<sup>10</sup> The Commission recognized that "[t]he application before us does not seek authority to provide interim service, and AMSC acknowledges that such authority must be separately sought and granted."<sup>11</sup>

Likewise, in CC Docket No. 87-75 the Commission merely stated that it would not preclude AMSC from seeking authority to

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<sup>8</sup> Comments of Aeronautical Radio, Inc. and the Air Transport Association of America on Request for Modification and Supplemental Information of American Mobile Satellite Corporation, Gen. Dkt. No. 84-1234, FCC File Nos. 1629-DSS-P/L-85, et al. (filed Jan. 29, 1990).

<sup>9</sup> In addition, on January 25, 1990, AMSC applied for authority to operate its MSS satellite system in the maritime bands 1530-1545 MHz and 1626.5-1646.5 MHz. AMSC Application for Modification of Space Station, FCC File No. 789-DSS-MP/ML-90 (filed Jan. 25, 1990). In that application, AMSC finally acknowledges that, as repeatedly shown by ARINC and ATA, AMSC will be unable to coordinate its non-conforming MSS system with international AMSS systems entitled to priority. This admission fatally undermines the Commission's contrary conclusion in Docket No. 84-1234, thus calling into serious question the legal status of the FCC's domestic L-Band allocation and authorization of AMSC as a monopoly provider of certain MSS services in that spectrum. Cf. AMSC Licensing Order, 4 FCC Rcd 6041, appeals docketed sub nom. Aeronautical Radio, Inc. v. FCC, Nos. 88-1009, et al. (D.C. Cir.)

<sup>10</sup> AMSC Licensing Order, 4 FCC Rcd at 6058 (emphasis added).

<sup>11</sup> Id. Comsat, as the U.S. INMARSAT signatory, has now applied for such authority. COMSAT Request for Interim Waiver, FCC File No. I-S-P-90-001 (filed Oct. 20, 1989).

utilize INMARSAT for interim mobile services.<sup>12</sup> The Commission never suggested that other entities could not also provide these services. Rather, the agency reserved to the AMSC system only the provision of certain domestic mobile services in L-Band spectrum when its own satellite and ground network are deployed.<sup>13</sup>

Moreover, there is no reason or basis to establish an interim MSS monopoly now.<sup>14</sup> None of the findings underlying the Commission's determination to license only a single MSS system in Docket No. 84-1234 support the authorization of only a single provider of aeronautical mobile satellite services over the INMARSAT system. As reported by the Commission, the rationale for a domestic system monopoly rested upon the agency's conclusions that:

(a) the available technology does not make it feasible at this time for two or more MSS systems to operate on the same frequency; (b) given the high cost of an MSS system and the limited amount of frequency allocated, multiple systems on discrete frequency segments would not likely be economically viable; and (c)

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<sup>12</sup> Provision of Aeronautical Services via the INMARSAT System, 4 FCC Rcd 6072, 6078 n.23 (1989).

<sup>13</sup> As ARINC and ATA demonstrated in their waiver request, the Commission has not foreclosed the domestic provision of AMSS(R) services via INMARSAT. ARINC and ATA Request for Waiver, FCC File No. I-S-P-90-002 (filed Nov. 7, 1989) at 4 n.2.

<sup>14</sup> In the absence of compelling evidence for an exception, FCC policy seeks to promote the competitive provision of all services. MSS Further Reconsideration Order, 4 FCC Rcd 6029, 6033 (1989).

coordination with and priority access for AMSS(R) would be facilitated with only one MSS system in the band.<sup>15</sup>

As is readily apparent, these concerns do not apply to the provision of resale services over a separate, pre-existing satellite system that is controlled by an entity other than the domestic MSS licensee and entitled to interference protection vis-a-vis the non-conforming domestic system even after the latter is deployed.

Each of the concerns raised by the Commission relate solely to the operation or financing of a domestic mobile satellite system in an environment that also includes the INMARSAT system and potentially other AMSS systems. But, so long as INMARSAT is the only system providing AMSS in the available frequency bands, the number of entities offering service via that system is irrelevant to intersystem frequency coordination issues. INMARSAT must remain in full control of frequency and power assigned to different applications and users on its satellites.

Furthermore, AMSC will not have to raise the substantial capital necessary for a dedicated satellite as long as it is just a reseller of INMARSAT capacity. It is not necessary to give any exclusive franchise to AMSC to finance this phase of the operation. Similarly, the Commission need not take extraordinary steps to fund a training period for AMSC's

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<sup>15</sup> Id. (footnote omitted).

satellite services. Comsat and INMARSAT will provide the needed satellite experience.

In any event, the mandatory insertion of a designated middleman such as AMSC for the provision of aeronautical satellite services would uneconomically increase the price of those services without providing any added value.<sup>16</sup> The existence of a multiplicity of aeronautical service providers not constrained to dealing with AMSC can be expected to promote innovation, better respond to user needs, and thereby develop and expand the market for AMSS.<sup>17</sup>

Accordingly, both economic and public policy concerns support the denial of an interim service monopoly to AMSC and require that the waiver to utilize MMSS frequencies be granted to any party wishing to use the existing or future INMARSAT space segment for interim domestic mobile satellite services.<sup>18</sup>

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<sup>16</sup> As shown below, AMSC simply has no coordination, safety, or other role to play in the provision of INMARSAT services.

<sup>17</sup> See COMSAT, Authorized Users, 100 F.C.C.2d 177 (1985).

<sup>18</sup> Under the Commission's Rules and the ITU Radio Regulations, no waiver is required for aeronautical use of MMSS frequencies. See 47 C.F.R. §§ 87.187(x), 87.189 (1988); ITU Rad. Reg. 2942, 2942A, 3571 (1982 ed., rev. 1985); Northwest/United Waiver, supra.

II. THE LAND MOBILE UNITS TO BE LICENSED BY AMSC SHOULD BE LIMITED TO A REASONABLE NUMBER UNTIL AMSC ESTABLISHES THAT IT HAS SPECIFIC, VALIDATED SAFEGUARDS INCORPORATED INTO THE MOBILE UNITS TO PROTECT AMSS(R) SERVICES

AMSC has requested authority for 30,000 land mobile earth stations without any indication how these stations will comply with INMARSAT's or the FCC's technical requirements.<sup>19</sup> AMSC expects additional units to be licensed by users and resellers of its services. Until type acceptance procedures are in place, however, the FCC should grant only a limited number of mobile licenses, and these should be conditioned on meeting INMARSAT's current design criteria. ARINC and two airlines seek authority for less than 100 aircraft earth stations that will be subject to the continuing supervision of both the FCC and FAA;<sup>20</sup> a similar number of land mobile earth terminals would seem appropriate.

Although the Commission has required AMSC to design its system to accept the handoff of traffic from INMARSAT satellite services,<sup>21</sup> AMSC has never presented any scheme for such hand-off and never committed to full interoperability with INMARSAT services. Just as it has not yet explained how its satellite system design will guarantee priority for aviation

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<sup>19</sup> See § 80.203 of the Commission's Rules, 47 C.F.R. § 80.203 (1988).

<sup>20</sup> Northwest/United Waiver, supra.

<sup>21</sup> AMSC Licensing Order, 4 FCC at 6055.

safety services, including those on other satellite systems, AMSC has avoided providing technically defensible arguments that its satellite services will meet existing airline requirements. As presented to AMSC by ARINC, those requirements include:

- ° Conformance with ARINC Characteristic 741.
- ° Compliance with the output of RTCA SC-165.
- ° Full compatibility and interoperability with all INMARSAT aeronautical services.
- ° Protection of INMARSAT spectrum, especially from undisciplined land mobile users.
- ° Capability for restoral of AMSC service using INMARSAT.

These requirements are supported by the air transport industry and are viewed as critical to air safety and the commercial acceptability of AMSC service to aviation. ARINC and ATA therefore submit that the Commission should not merely assume that AMSC intends to incorporate these standards into the 30,000 mobiles it now seeks to license. Instead, the Commission should direct AMSC, as a condition on the grant of its requested waiver and license, to demonstrate with particularity that the design for both its interim system and its future satellite system, including all mobile terminals, will satisfy the criteria set forth above.

III. CONTRARY TO AMSC'S SUGGESTION, IT WILL HAVE  
NO ROLE IN ADMINISTERING THE OPERATION OF THE  
INMARSAT SATELLITE TO PROTECT AVIATION SAFETY

One of the bases stressed by AMSC for grant of the waiver is to "refine its ability to administer the system . . . ."22 This is another example of AMSC's unrestrained hyperbole and self-aggrandizement. As the Commission is fully aware, INMARSAT and Comsat will be responsible for controlling the operation of INMARSAT spacecraft to protect aviation safety in the provision of MSS, not AMSC. As a result, AMSC is unlikely to gain any useful experience in administering its system or protecting the safety of aviation through its offering of interim services utilizing INMARSAT. The Commission should therefore clarify to AMSC the limits of its role as a reseller of Comsat service.

CONCLUSION

For the foregoing reasons, ARINC and ATA urge that, in acting on AMSC's waiver and licensing requests, the Commission grant only a non-exclusive waiver to utilize MMSS frequencies for MSS, license no more than 100 mobile earth stations until AMSC demonstrates conclusively that it can protect aviation safety services from harmful interference by its MSS operations, and clarify that Comsat and INMARSAT, not

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22 AMSC Request for Waiver at 3.

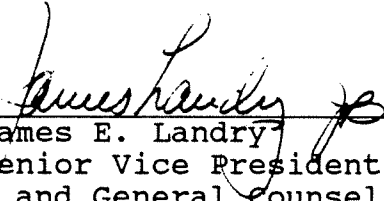
AMSC, are responsible for protecting aviation safety during interim MSS operations.

Respectfully submitted,

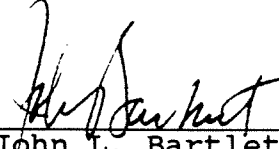
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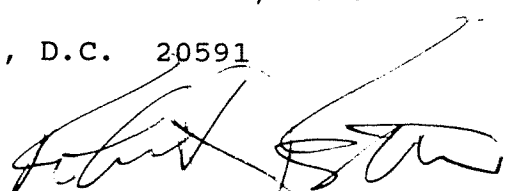


CERTIFICATE OF SERVICE

I hereby certify that a true copy of the foregoing document was hand-delivered to the following parties on this 29th day of January, 1990.

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