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

In the Matter of	)	
	)	
TMI Communications and Company, Limited Partnership	)	File No. 189-SAT-LOI-97
	)	
	)	IBFS Nos. SAT-LOI-19970926-00161
Letter of Intent to Provide Mobile-Satellite Service in the 2 GHz Bands	)	SAT-AMD-20001103-00158

ORDER

Adopted: July 17, 2001 **Released:** July 17, 2001

By the Chief, International Bureau:

I. INTRODUCTION

1. By this *Order*, we grant the request of TMI Communications and Company, Limited Partnership (TMI) to use spectrum in the 2 GHz band to provide Mobile-Satellite Service (MSS).[1] This action is a significant step in assigning this spectrum for use by MSS providers and facilitates implementation of TMI's proposed system's technology and service offerings in the marketplace.

II. BACKGROUND

2. TMI proposes to provide MSS from one non-U.S.-licensed space station in geostationary-satellite orbit (GSO), using service links in the 2 GHz MSS band.[2] Specifically, TMI plans to operate CANSAT-M3, to be licensed by Industry Canada, from the 106.5° W.L. orbit location.[3] TMI proposes to use the 1990-2025 MHz and 2165-2200 MHz bands to serve customers in the United States.[4]

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[1] The term "2 GHz MSS Band" is used in this *Order* to refer to the 1990-2025 MHz (uplink) and 2165-2200 MHz (downlink) frequencies. These frequencies are allocated to the Mobile-Satellite Service (MSS) in the United States. *See Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service*, ET Docket No. 95-18, First Report and Order and Further Notice of Proposed Rule Making, 12 FCC Rcd 7388 (1997), *aff'd on recon.*, Memorandum Opinion and Order and Third Notice of Proposed Rule Making and Order, 13 FCC Rcd 23949 (1998), *further proceedings*, Second Report And Order and Second Memorandum Opinion and Order, 15 FCC Rcd 12315 (2000) (*2 GHz Allocation & Relocation Proceeding*).

[2] "Service links" are the radio links that transmit a user's messages in both directions between a user's earth terminal and the system's satellite(s).

[3] Letter of Intent of TMI Communications and Company, Limited Partnership, File No. 189-SAT-LOI-97, IBFS No. SAT-LOI-19970926-00161 (TMI LOI) at Attachment 2, Section 6.

[4] *Id.* at Attachment 2, Section 5.

Because TMI proposes to serve the United States using a Canadian gateway for feeder link operations,[5] Industry Canada will authorize TMI's feeder link frequencies.[6]

3. TMI submitted its 2 GHz MSS Letter of Intent (LOI) on September 26, 1997.[7] On March 19, 1998, we sought comment on TMI's LOI and other 2 GHz MSS applications.[8] The Commission subsequently adopted service rules for 2 GHz MSS systems.[9] TMI amended its LOI to address the requirements adopted in the *2 GHz MSS Order*.[10]

III. DISCUSSION

4. Under rules adopted in the Commission's *2 GHz MSS Order*, TMI must demonstrate that its system meets certain technical requirements. We address these requirements first. We then turn to TMI's request for service links in the 2 GHz MSS band. Next we review TMI's regulatory classification, implementation milestones, and orbital debris mitigation strategy. Finally, we dispose of various parties' arguments against granting TMI's letter of intent.

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[5] "Feeder links" are the radio links that transmit a user's messages in both directions between the system's satellite(s) and its gateway earth station(s), connecting the MSS network with the public switched telephone network.

[6] *See* TMI LOI at Attachment 2, Section 6 & Table 1. TMI's selected feeder link frequencies within the 10.7-10.95 GHz, 11.2-11.45 GHz, and 12.75-13.25 GHz bands are available for Canadian system use at 106.5° W.L., in accordance with Appendix 30B of the International Telecommunication Union (ITU) Radio Regulations. *Id.*

[7] A satellite system being licensed by a foreign administration, and seeking to obtain spectrum for service to the United States, may file an LOI requesting that the Commission "reserve" spectrum for that system. We consider an LOI request in a space-station processing round in anticipation that future earth station applications will seek authority to access the non-U.S.-licensed satellite system. *See Amendment of the Commission's Regulatory Policies to Allow Non-U.S. Licensed Space Stations to Provide Domestic and International Satellite Service in the United States*, IB Docket No. 96-111, Report and Order, 12 FCC Rcd 24094, 24173-74 ¶ 185 (1997) (*DISCO II Order*) (describing the procedures under which foreign-licensed satellite systems may provide service in the United States). To the extent TMI will be providing MSS to customers in the United States, the Commission has found that granting TMI access to the United States is consistent with the *DISCO II* framework. *See SatCom Systems, Inc. and TMI Communications and Company, L.P.*, Order and Authorization, 14 FCC Rcd 20798 (1999) (*SatCom/TMI Order*).

[8] *See* Public Notice, Report No. SPB-119 (rel., March 19, 1998). In response to this Public Notice, 11 comments, 2 reply comments, and 3 responses were filed specifically addressing TMI's LOI. A list of pleadings is attached in Appendix A.

[9] *The Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band*, IB Docket No. 99-81, Report and Order, 15 FCC Rcd 16127 (2000) (*2 GHz MSS Order*).

[10] TMI Letter of Intent Amendment, File No. SAT-AMD-20001103-00158 (Conforming Amendment); *see* Public Notice, Report No. SAT-00061 (rel. November 29, 2000) (*2 GHz MSS Amendment PN*). No petitions to deny or other objections or comments were filed on TMI's Conforming Amendment in response to this Public Notice.

A. Technical Qualifications

1. Frequency Agility

5. Under the Commission's service rules and policies, 2 GHz MSS systems must be capable of operating across at least seventy percent of the United States' 2 GHz MSS allocation in the 1990-2025 MHz and 2165-2200 MHz bands.[11] The Commission also requires that 2 GHz MSS systems be capable of operating without fixed frequency translations between the uplink and downlink frequencies.[12] TMI's proposed system meets these requirements.[13]

2. GSO Coverage Requirements

6. Under the Commission's rules, GSO 2 GHz MSS systems must be capable of providing continuous coverage throughout all 50 states, Puerto Rico and U.S. Virgin Islands, if technically feasible.[14] TMI's proposed system meets these requirements.[15]

B. Service-Link Spectrum

7. The *2 GHz MSS Order* adopted a hybrid band arrangement that divided the 2 GHz MSS uplink (1990-2025 MHz) and downlink (2165-2200 MHz) bands into segments of equal bandwidth based on the number of systems seeking assignments.[16] The Commission determined that providing 3.5 megahertz in each direction for the nine then-pending system proponents would be sufficient to commence operations.[17] The Commission provided that, in the event not all system proponents proceed toward authorization, the remaining system proponents would receive more than 3.5 megahertz of spectrum in each direction upon authorization.[18] In addition, the Commission reserved one additional spectrum segment in each direction for expansion of system(s) by operator(s) meeting certain criteria for service to unserved areas.[19] The following formula expresses the amount of spectrum available for each system in each direction of transmission:

35 megahertz ÷ (Number of System Proponents + One) = Size of Each Spectrum Segment[20]

There are currently eight 2 GHz MSS system proponents participating in this processing round.[21] We will not at this time, however, implement that portion of the Commission's *2 GHz MSS Order* that would

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11 *2 GHz MSS Order*, 15 FCC Rcd at 16152 ¶ 52.

12 *Id.* at ¶ 53.

13 Conforming Amendment at 4; TMI LOI at Attachment 2, Section 8.

14 47 C.F.R. § 25.143(b)(2)(iv).

15 Conforming Amendment at 4; TMI LOI at Attachment 2, Section 5 & Figure 1.

16 *2 GHz MSS Order*, 15 FCC Rcd at 16138 ¶ 16.

17 *Id.* at 16139 ¶ 17.

18 *Id.*

19 *Id.* at 16146-47 ¶¶ 35-39.

20 *Id.* at 16138 ¶ 16.

give each system proponent access to more than 3.5 megahertz of spectrum in each direction on a primary basis. Subsequent to release of the *2 GHz MSS Order*, the Commission has received new proposals for use of the 2 GHz MSS bands.[22] Delaying the designation of additional spectrum will give the Commission the opportunity to consider these proposals. Therefore, in this *Order*, TMI will receive access to a spectrum segment of 3.5 megahertz, in each direction of transmission, on a primary basis, *i.e.*, a "Selected Assignment."[23] TMI will choose its Selected Assignment such that the band edge of the assignment is an integer multiple of 3.88 megahertz from the band edge of the 2 GHz MSS band, which will allow the Commission to address the proposals before it.

8. TMI must identify the specific frequencies of its Selected Assignment when its satellite reaches its intended orbit, and notify the Commission in writing of its selection.[24] Consistent with the *2 GHz MSS Order*, TMI may also elect to operate outside its Selected Assignment on a secondary basis with respect to other 2 GHz MSS operators, subject to certain conditions.[25]

C. Regulatory Classification

9. TMI plans to operate its 2 GHz MSS operations in the United States as a non-common carrier.[26] Under the Communications Act, Commission Rules, and consistent with our *2 GHz MSS Order*, we treat TMI's space station operations as non-common carrier.[27] We will address the regulatory classification of any Commission-licensed earth stations operating as part of TMI's system, if any, in connection with earth station licensing.[28]

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[21] *See 2 GHz MSS Amendment PN*, Report No. SAT-00061.

[22] *See Ex parte* Letter of New ICO Global Communications (Holdings) Ltd., IB Docket No. 99-81 (dated March 8, 2001) (ICO *Ex Parte* Letter); Petition for Rulemaking of the Cellular Telecommunications & Internet Association (filed May 18, 2001) (CTIA Petition).

[23] Systems must be implemented consistent with the plans for incumbent relocation adopted in the *2 GHz Allocation & Relocation Proceeding*, Second Report And Order and Second Memorandum Opinion and Order, 15 FCC Rcd 12315, including the phased plan for relocation in the 1990-2025 MHz band.

[24] *2 GHz MSS Order*, 15 FCC Rcd at 16138 ¶ 16. A satellite's intended orbit is the final orbit it will occupy to provide commercial service. *Id.* n.75.

[25] *Id.* at 16139-40 ¶ 19. The 1990-2025 MHz (Earth-to-space) and 2165-2200 MHz (space-to-Earth) bands are immediately adjacent to the 2025-2110 MHz (Earth-to-space, space-to-space) and 2200-2290 MHz (space-to-Earth, space-to-space) bands, respectively, where the Federal Government has extensive satellite network operations. To avoid the possibility of adjacent band interference, this potential interference situation needs to be considered by both non-Government and Government satellite operators when implementing their respective satellite systems near the band edges.

[26] TMI LOI at 7.

[27] 47 U.S.C. §§ 153(44), 332(c)(5); 47 C.F.R. § 20.9(a)(10); *2 GHz MSS Order*, 15 FCC Rcd at 16173 ¶ 95.

[28] We also note that the Commission will address issues concerning protection for aeronautical radionavigation in the 1559-1610 MHz band from the out-of-band emissions of 2 GHz MSS mobile earth terminals (METs) in the pending Global Mobile Personal Communications by Satellite (GMPCS) rulemaking, and the 2 GHz MSS METs will be subject to applicable rules and policies the Commission will adopt in that proceeding. *2 GHz MSS Order*, 15 FCC Rcd at 16196-97 ¶ 163 (citing *Amendment of Parts 2 and 25 to Implement the Global Mobile*

D. Implementation Milestones

10. The *2 GHz MSS Order* adopted milestones for implementation that apply to 2 GHz MSS systems.[29] Consistent with the *2 GHz MSS Order*, therefore, TMI must observe the following milestone requirements:

Milestone	Deadline
Enter Non-contingent Satellite Manufacturing Contract	12 months after authorization
Complete Critical Design Review (CDR)	24 months after authorization
Begin Physical Construction of All Satellites	36 months after authorization
Complete Construction of One Satellite and Launch It Into Its Assigned Orbital Location	60 months after authorization
Certify Entire System Operational	72 months after authorization

11. TMI must describe the status of system construction and operation in its annual reports, and file a certification with the Commission within ten days following each of the milestones specified above.[30]

E. Orbital Debris Mitigation

12. Currently, the FCC addresses issues regarding orbital debris and satellite systems on a case-by-case basis, under the general "public interest, convenience and necessity" standard in the Communications Act.[31] To facilitate our orbital debris analysis, under Section 25.143(b)(1) of our rules, 2 GHz MSS system proponents are required to "describe the design and operational strategies that they will use, if any, to mitigate orbital debris."[32] This rule also requires 2 GHz MSS system proponents to "submit a casualty risk assessment if planned post-mission disposal involves atmospheric re-entry of the spacecraft."[33]

13. In adopting this requirement, the Commission indicated that applicants may wish to consult the National Aeronautics & Space Administration (NASA)/Department of Defense (DoD) Guidelines on Debris Mitigation, as well as the International Telecommunication Union (ITU)

Personal Communications by Satellite (GMPCS) Memorandum of Understanding and Arrangements, IB Docket No. 99-67, Notice of Proposed Rule Making, 14 FCC Rcd 5871 (1999)).

[29] *2 GHz MSS Order*, 15 FCC Rcd at 16177-78 ¶ 106.

[30] *See* 47 C.F.R. § 25.143(e)(1) (requiring satellite space-station operators to file annual reports with the Commission every October 15); *Id.* § 25.143(e)(3) (requiring satellite space-station operators to file a certification with the Commission within 10 days of a system implementation milestone).

[31] 47 U.S.C. § 303.

[32] 47 C.F.R. § 25.143(b)(1), as amended by the *2 GHz MSS Order*, 15 FCC Rcd at 16205. The Commission also stated that it intends to commence a rulemaking proceeding proposing to explore orbital debris mitigation issues. *2 GHz MSS Order*, 15 FCC Rcd at 16188 ¶ 138.

[33] 47 C.F.R. § 25.143(b)(1), as amended by the *2 GHz MSS Order*, 15 FCC Rcd at 16205.

Recommendation on disposal of geostationary satellites.[34] The NASA/DoD Guidelines identify four main objectives: 1) controlling debris released during normal operations; 2) minimizing debris generated by accidental explosions; 3) selecting safe flight profiles and operational configurations; and 4) providing for post-mission disposal of space structures.

14. Under the NASA/DoD Guidelines, these objectives are accomplished by a number of means.[35] The first objective – controlling debris released during normal operations – is addressed by minimizing the amount of debris released in a planned manner during normal operations. The second objective – minimizing debris generated by accidental explosions – is addressed by limiting the risk to other space systems from accidental explosions both during mission operations and after completion of mission operations. For mission operations, this is accomplished through analysis of credible failure modes and development of methods to limit the probability they will occur. Post-mission, this is accomplished through depletion of all sources of stored energy on board the spacecraft when they are no longer required for mission operations or post-mission disposal. The third objective – selecting a safe flight profile and operational configuration – is addressed through estimating and limiting the probability of collision with large objects during orbital lifetime, and the probability of disabling collisions with small debris during mission operations.

15. The fourth objective in the NASA/DoD Guidelines – providing for post-mission disposal of space structures – is met by planning for disposal of a spacecraft at the end of mission life to minimize impact on future space operations. This is accomplished through one of two options relevant here. The first option is atmospheric reentry, *i.e.*, leaving the structure in an orbit in which it will remain in orbit for no longer than 25 years after mission completion. Under this option, it is also necessary to address the casualty risk from any portions of the spacecraft that may survive atmospheric reentry. The second option is maneuvering to a storage orbit. There are three suggested storage orbits. The first is between low and middle Earth orbit, *i.e.*, satellite perigee altitude above 2,000 kilometers and apogee altitude below 19,700 kilometers. The second is between middle and geosynchronous Earth orbit, *i.e.*, perigee altitude above 20,700 kilometers and apogee altitude below 35,300 kilometers. The third is above geosynchronous Earth orbit, *i.e.*, perigee altitude above 36,100 kilometers (or approximately 300 kilometers above geosynchronous altitude). In addition to the NASA/DoD guidelines, and as the Commission observed in the *2 GHz MSS Order*,[36] the ITU has developed a recommendation concerning operations in the GSO.[37]

16. Each of the 2 GHz MSS systems submitted a narrative statement concerning orbital debris mitigation. We note that, to the extent that the statements address debris mitigation issues involving launch vehicle operations, we have neither reviewed nor concluded the plans disclosed are

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[34] *See 2 GHz MSS Order*, 15 FCC Rcd at 16118 ¶ 138.

[35] *See The Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band*, IB Docket No. 99-81, 14 FCC Rcd 4843, 4901-03 (1999) (Appendix C).

[36] *2 GHz MSS Order*, 15 FCC Rcd at 16118 ¶ 138.

[37] Recommendation ITU-R S.1003. The recommendation suggests, in pertinent part, that a geostationary satellite at the end of its life should be transferred before complete exhaustion of its propellant, to a "supersynchronous graveyard orbit that does not intersect the GSO," with GSO defined as the mean earth radius of 42,164 kilometers plus or minus 300 kilometers. The recommendation also notes that what constitutes "an effective graveyard orbit" requires further studies. In this regard, we note that orbital perturbations due to solar and lunar gravitation, solar pressure, or other sources, may, over time, result in an inactive satellite's orbit intersecting the GSO, as defined by the ITU recommendation, even if the initial disposal altitude does not intersect the GSO.

appropriate.[38] We also note that, to the extent debris mitigation plans for MSS systems change, the system proponents should evaluate those changes to determine whether disclosure and/or prior approval is required.[39]

17. In its Conforming Amendment, TMI addressed orbital debris mitigation issues for operations, including debris release and collision with uncontrolled objects.[40] However, TMI did not address limiting the risk to other space systems from accidental explosions during mission operations. Given the importance of this issue in mitigating debris generation, we require TMI to submit a further statement indicating its intent in this respect. Also, although TMI stated its strategy for minimizing the possibility of collision with "uncontrolled" objects, TMI did not discuss controlled objects. We expect TMI and other 2 GHz MSS systems to develop appropriate operational plans and procedures to minimize the possibility of collision with large, known objects.[41]

18. TMI also addressed end-of-mission orbital debris mitigation issues. It stated that "the satellite orbit will be raised by a minimum of 100 km on all sides . . . ."[42] It is unclear what this statement means, but if it is intended to define a disposal strategy in which the satellite's perigee altitude would be raised to 100 kilometers above the nominal geostationary orbit, the strategy is not consistent with the ITU recommendation on disposal of spacecraft in geostationary orbit.[43] Therefore, we require TMI to supplement its narrative statement by providing greater specificity regarding the storage orbit parameters selected for disposal of its satellite. TMI also did not address the depletion of stored energy sources after system disposal. We require a further statement from TMI stating its intent in this regard. Each of the three required supplements to TMI's orbital debris narrative statement are to be submitted no later than six months prior to the CDR milestone.[44]

F. Other Issues

19. AT&T Wireless Services, Inc., Cingular Wireless LLC, Sprint PCS, and Verizon Wireless (Wireless Carriers) in a recent joint letter requested the Commission to defer grant of the pending 2 GHz MSS applications until (1) public comment is sought and received on the implications of New ICO Global Communications (Holdings) Ltd.'s (ICO's) March 8, 2001 *ex parte* letter proposing amendment of the 2 GHz MSS service rules to permit licensees to incorporate an "ancillary terrestrial component" into their 2 GHz MSS networks; and (2) the Commission considers a petition for rule

[38] The United States licensing authority for commercial launches is the Federal Aviation Administration. *See* 14 C.F.R. § 400 *et seq*.

[39] *See* 47 C.F.R. §§ 1.65, 25.117(a). *See also 2 GHz MSS Order*, 15 FCC Rcd at 16179 ¶ 108 (system modifications requiring prior FCC approval should be identified well in advance of the CDR milestone).

[40] Conforming Amendment at 4-5.

[41] *See, e.g.*, Amendment to Pending Application of Iridium LLC, SAT-AMD-20001103-00156 (November 3, 2000) at Exhibit 1, p.2.

[42] Conforming Amendment at 5.

[43] *See* Recommendation ITU-R S.1003. *See also* Disposal of satellites in geosynchronous orbit, Report by the Secretariat, United Nations Committee on Peaceful Uses of Outer Space, UN Document A/AC.105/734 (17 December 1999), at p.4 and Table 3.

[44] In addition, we would not anticipate issuing an authorization for handset operations in the United States until this issue has been resolved.

making submitted by the Cellular Telecommunications & Internet Association (CTIA) requesting that the 2 GHz MSS bands be reallocated for other uses, such as terrestrial wireless services.[45] For the reasons set forth in the ICO *Order* issued contemporaneously with this *Order*, we deny the Wireless Carriers' request to defer action on the 2 GHz MSS applications.[46]

20. The Boeing Company (Boeing) and Mobile Communications Holdings, Inc. (MCHI) filed Petitions to Deny TMI's LOI, on the ground that TMI seeks to use globally allocated MSS spectrum exclusively for regional-only operations.[47] The Commission's *2 GHz MSS Order* addressed this concern, stating that all 2 GHz MSS applicants will be permitted to operate anywhere in the 2 GHz MSS bands, as the most equitable mechanism for assigning the available spectrum in light of the incumbent relocation process.[48]

21. MCHI further argues that TMI has failed to establish its qualifications to provide satellite services in the United States from a non-U.S.-licensed satellite because, *inter alia*, TMI has not demonstrated that it holds a Canadian license to provide 2 GHz MSS service, nor that it is "well along in the licensing process."[49] Under the Commission's rules established in the *DISCO II* proceeding, we may designate spectrum for a foreign entrant if it has submitted "proof that it is pursuing a license from a foreign administration."[50] One of the indicia we use to determine whether a foreign entrant may be considered contemporaneously with U.S. satellite systems in a processing round is if the foreign entrant's system "has been submitted for coordination to the International Telecommunication Union."[51] Industry Canada has submitted a 2 GHz MSS filing for Advance Publication of Information to the ITU,[52] and "is currently in the process of coordinating the associated space station internationally."[53] In addition, TMI has begun the process of getting a license to operate a 2 GHz MSS system in Canada.[54] We believe that these facts are sufficient to allow us to designate spectrum to TMI in this *Order* today. However, we caution TMI that delay in approval of its request for a Canadian license will not toll the milestones

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45 Letter to Michael K. Powell, Chairman, Federal Communications Commission from Douglas Brandon, AT&T Wireless Services, Inc., Brian F. Fontes, Cingular Wireless, LLC, Luisa L. Lancetti, Sprint Corporation, and John T. Scott, III, Verizon Wireless, IB Docket No. 99-81 (dated June 13, 2001) (citing the ICO *Ex Parte* Letter and CTIA Petition). *Accord Ex parte* Letter of CTIA, IB Docket No. 99-81 (dated July 12, 2001). *But see Ex parte* Letter of Globalstar, L.P., IB Docket No. 99-81 (dated July 2, 2001) (objecting to the Wireless Carriers' request); *Ex parte* Letter of Celsat America, Inc., IB Docket No. 99-81 (dated June 25, 2001) (same).

46 *See ICO Services Limited, Letter of Intent to Provide Mobile-Satellite Service in the 2 GHz Bands*, Order, DA 01-1635, at ¶¶ 29-31 (Int'l Bur./OET, rel. July 17, 2001).

47 Petition to Deny or Hold in Abeyance of The Boeing Company at 5-7; Petitions to Deny and Comments of Mobile Communications Holdings, Inc. at 19-20. *See also* Consolidated Comments and Petition to Deny of Iridium LLC at 9-10; Consolidated Reply of Iridium LLC at 9-10.

48 *2 GHz MSS Order*, 15 FCC Rcd at 16137-38 ¶ 15.

49 Petitions to Deny and Comments of Mobile Communications Holdings, Inc. at 17-19.

50 *DISCO II Order*, 12 FCC Rcd at 24178 ¶ 196.

51 47 C.F.R. § 25.137(c)(iii).

52 TMI LOI at Attachment 3.

53 *See* Letter of Chantal Beaumier, Director, Space and International Regulatory Activities, Industry Canada, to Thomas S. Tycz, Chief, Satellite and Radiocommunication Division, FCC (May 18, 2001) at 2.

54 *Id.*

imposed herein. Furthermore, no U.S.-based earth stations shall be authorized to operate with TMI's 2 GHz MSS system until TMI has received its Canadian license.[55] Finally, prior to handling 2 GHz MSS communications originating or terminating from mobile terminals in the United States via its Canadian gateway, TMI may need to address law enforcement and national security concerns.[56]

22. Therefore, for the reasons set forth above, we deny Boeing's and MCHI's Petitions to Deny TMI's LOI.

IV. ORDERING CLAUSES

23. Accordingly, IT IS ORDERED that the Letter of Intent, File No. 189-SAT-LOI-97; IBFS Nos. SAT-LOI-19970926-00161 and SAT-AMD-20001103-00158 IS GRANTED, TMI Communications and Company, Limited Partnership IS RESERVED radio-frequency spectrum to operate its proposed mobile-satellite system to provide service in the United States in the 1990-2025 MHz and 2165-2200 MHz frequency bands, in accordance with the technical specifications set forth in its Letter of Intent, as amended, and the conditions set forth in the preceding paragraphs and consistent with our rules, unless specifically waived herein, and subject to the following conditions:

a. TMI Communications and Company, Limited Partnership must choose a Selected Assignment in the 1990-2025 MHz and 2165-2200 MHz frequency bands upon launch of its satellite into its authorized geostationary satellite orbit and commencement of operations by that satellite;

b. The Selected Assignment shall give TMI Communications and Company, Limited Partnership access to 3.5 megahertz in each direction of transmission on a primary basis;

c. The Selected Assignment shall be chosen such that the band edge of the assignment is an integer multiple of 3.88 megahertz from the band edge of the 2 GHz MSS band; and

d. Operations in frequencies in these bands outside the Selected Assignment shall be on a secondary basis with respect to operations of other 2 GHz MSS systems.

24. IT IS FURTHER ORDERED that this *Order* shall become NULL and VOID with no further action required on the Commission's part in the event the space station is not constructed, launched and placed into operation in accordance with the technical parameters and terms and conditions of the authorization by the following dates:

Milestone	**Deadline**
Enter Non-contingent Satellite Manufacturing Contract	July 17, 2002
Complete Critical Design Review	July 17, 2003
Begin Physical Construction of All Satellites	July 17, 2004
Complete Construction of One Satellite and Launch It Into Its Assigned Orbital Location	July 17, 2006
Certify Entire System Operational	July 17, 2007

[55] *DISCO II Order*, 12 FCC Rcd at 24177 ¶¶ 195-196.

[56] *See, e.g., 2 GHz MSS Order*, 15 FCC Rcd at 16169 ¶ 86; *SatCom/TMI Order*, 14 FCC Rcd at 20823-24 ¶¶ 55-58, 20829-45 Appendix A.

25. IT IS FURTHER ORDERED that the Petition to Deny or Hold in Abeyance of The Boeing Company (filed May 4, 1998), and the Petition to Deny of Mobile Communications Holdings, Inc. (filed May 4, 1998) ARE DENIED.

26. IT IS FURTHER ORDERED that no earth stations shall be authorized to operate with the TMI Communications and Company, Limited Partnership 2 GHz MSS system until TMI Communications and Company, Limited Partnership has received a 2 GHz Mobile-Satellite Service license from Industry Canada and has certified to the Commission that the Canadian licensing process for the TMI satellite network has been completed;

27. IT IS FURTHER ORDERED that this *Order* is subject to change by summary order of the Commission on 30 days' notice and does not confer any permanent right to use the spectrum.

28. IT IS FURTHER ORDERED that TMI Communications and Company, Limited Partnership may decline this ruling as conditioned within 30 days of the date of the release of this *Order*. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.

29. This *Order* is issued pursuant to Section 0.261 of the Commission's rules on delegations of authority, 47 C.F.R. § 0.261, is effective upon release.

FEDERAL COMMUNICATIONS COMMISSION

Donald Abelson
Chief, International Bureau

APPENDIX A

LIST OF PLEADINGS ADDRESSING TMI'S LETTER OF INTENT

Filed May 4, 1998

Petition to Deny of Hold in Abeyance of The Boeing Company
Comments of Celsat America, Inc.
Comments of Constellation Communications, Inc.
Consolidated Comments of ICO Services Limited
Consolidated Comments and Petition to Deny of Iridium LLC
Petitions to Deny and Comments of Mobile Communications Holdings, Inc. at 17-20
Comments of Bell Atlantic
Consolidated Petition to Deny, Petition to Defer, and Comments of GE American Communications, Inc.
Comments of Hughes Communications Galaxy, Inc.
Comments of the Fixed Point-to-Point Communications Section, Wireless Telecommunications Division, Telecommunications Industry Association (limited to feeder link issues)
Comments of the Wireless Cable Association International, Inc.

Filed June 3, 1998

Consolidated Reply Comments of Mobile Communications Holdings, Inc.
Comments and Opposition to Petitions to Deny or to Hold in Abeyance of TMI Communications and Company, Limited Partnership

Filed June 18, 1998

Consolidated Reply of The Boeing Company at 17-21
Consolidated Reply of Iridium LLC at 9-10
Response of the Wireless Communications Association International, Inc.