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

In the Matter of	)	
	)	File No. SAT-LOA-19990427-00046
Lockheed Martin Corporation	)	File No. SAT-AMD-20030730-00150
	)	File No. SAT-AMD-20040130-00008
Application To Launch and Operate a	)	File No. SAT-AMD-20040205-00012
Geostationary Orbit Space Station in the	)	File No. SAT-AMD-20040524-00106
Radionavigation-Satellite Service at 107.3° W.L.	)	File No. SAT-AMD-20041012-00197
		File No. SAT-AMD-20050210-00036
		Call Sign: S2371

ORDER AND AUTHORIZATION

Adopted: September 8, 2005 Released: September 8, 2005

By the Acting Chief, Satellite Division, International Bureau:

I. INTRODUCTION

1. In this Order, we grant authority to Lockheed Martin Corporation (Lockheed) to operate and launch a Radionavigation-Satellite Service (RNSS) space station[1] aboard Telesat Canada Corporation's (Telesat) ANIK-F1R satellite, separately licensed by the Canadian Administration to be located at 107.3° W.L. Lockheed's proposed space station is a part of its Regional Positioning System (RPS). Grant of this application will allow Lockheed to provide valuable augmentation services to the existing US Global Positioning System.

II. BACKGROUND

2. In April 1999, Lockheed filed applications with the Commission for authority to launch and operate a global RNSS system, known as the Lockheed Martin Regional Positioning System ("LM-RPS") with satellites operating at several orbital locations, including 109° W.L.[2] Lockheed's April 1999

[1] As used in this Order and Authorization, the term "space station" has the meaning given in the International Telecommunication Union (ITU) Radio Regulations, *i.e.* one or more transmitters, or receivers or a combination of transmitters and receivers necessary for carrying on a radiocommunication service, and located on an object which is beyond, or is intended to go beyond, the major portion of the Earth's atmosphere. *See* ITU Radio Regulations Articles 1.61 and 1.64.

[2] *See Lockheed Martin Corp., Application for Authority to Launch and Operate a Global System of Geostationary Orbit Satellites in the Radionavigation-Satellite Service*, File No. SAT-LOA-19990427-00046, filed April 27, 1999 (Lockheed Original April 1999 Application). This system as originally proposed consisted of twelve geostationary satellites that would provide navigation services from six orbital locations: 79° W.L., 71° E.L., 131.8° E.L., 109° W.L., 129° W.L. and 11° E.L. In 2003, Lockheed amended its request to relocate one of its proposed satellites from 129° W.L. to 133° W.L. The International Bureau (Bureau) recently granted that application. *See* Lockheed Martin Corp., Application to Launch and Operate a Geostationary Orbit Space Station in the Radionavigation-Satellite Service at 133° W.L., *Order and Authorization*, DA 05-1747 (Int'l. Bur., released June 23,

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Applications were placed on public notice on May 27, 1999.[3] A number of parties, listed in Appendix A, filed comments in response to this application.[4]

3. In January and February 2004, Lockheed amended its application for the satellite at 109° W.L., revising the location to 107.3° W.L.[5] With these amendments, Lockheed seeks authority to construct and operate an RNSS payload located on board Telesat's ANIK-F1R satellite. Telesat is licensed by the Canadian Administration to operate the communications payload of ANIK-F1R in the C- and Ku-bands at 107.3° W.L., in addition to a tracking, telemetry and control (TT&C) payload. In its February 2004 amendment, Lockheed revised its frequency request to the 6615.17-6635.67 MHz and 6666.20-6686.70 MHz frequency bands for data uplinks from its feeder link earth stations. Additionally, Lockheed confirmed that Telesat would be performing the TT&C functions for the maneuvering and maintenance of the ANIK-F1R satellite, including the Lockheed space station, and therefore, Lockheed is not requesting any spectrum for TT&C.[6] These amendments were placed on Public Notice,[7] and no comments were received. Lockheed subsequently amended its application in May 2004,[8] in October 2004,[9] and in February 2005,[10] to provide additional information requested by the Commission.

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2005) (*Lockheed 133° W.L. Order)*. Lockheed also withdrew its request for 11° E.L. in 2003, and withdrew its three applications for the 79° W.L., 71° E.L., 131.8° E.L orbital locations in 2005. *See* Letter from Stephen D. Baruch, Counsel to Lockheed Martin Corp., to Marlene Dortch, Secretary, FCC (dated July 6, 2005) *(Lockheed 79° W.L. Letter);* Letter from Stephen D. Baruch, Counsel to Lockheed Martin Corp., to Marlene Dortch, Secretary, FCC (dated July 6, 2005) *(Lockheed 71° E.L. Letter);* Letter from Stephen D. Baruch, Counsel to Lockheed Martin Corp., to Marlene Dortch, Secretary, FCC (dated July 6, 2005) *(Lockheed 131.8° E.L. Letter).*

3 *See* Public Notice, Report No. SAT-00018, released May 27, 1999.

4 On July 30, 2003, Lockheed amended its application to (1) revise its requested radio frequencies, (2) clarify its Tracking, Telemetry and Command (TT&C) functions, and (3) provide additional or revised technical information. *See* Public Notice, Report No. SAT-00018, released May 27, 1999. Lockheed's July 2003 Amendment was also placed on Public Notice, and the comments filed in response are also listed in Appendix A. *See* Public Notice, Report No. SAT-00160, in reference to Lockheed's July 2003 Amendment, File No. SAT-AMD-20030730-00150, released August 18, 2003.

5 *See Lockheed Martin Corp., Amendment to Application for Authority to Launch and Operate a Global System of Geostationary Orbit Satellites in the Radionavigation-Satellite Service*, File No. SAT-AMD-20040130-00008, filed January 30, 2004, (Lockheed January 2004 Amendment). Subsequently, Lockheed further amended its application on February 5, 2004. *See also Lockheed Martin Corp., Amendment* Application *for Authority to Launch and Operate a Global System of Geostationary Orbit Satellites in the Radionavigation-Satellite Service*, File No. SAT-AMD-20040205-00012, filed February 5, 2004 (Lockheed February 2004 Amendment). Lockheed February 2004 Amendment basically replaced in its entirety Lockheed's previous January 2004 Application.

6 GE Americom and Panamsat criticize Lockheed's original plans to perform TT&C functions in the extended C-band. *See* GE Americom Comments at 2. *See also* Panamsat Comments at 2. Because Lockheed later withdrew its request for TT&C authority, we dismiss GE Americom's and Panamsat's contentions as moot.

7 *See* Public Notice, Report No. SAT-00202, in reference to Lockheed's January 2004 and February 2004 Amendments, File Nos. SAT-AMD-20040130-00008 and SAT-AMD-20040205-00012, released March 19, 2004.

8 *See Lockheed Martin Corp., Amendment to Application for Authority to Launch and Operate a Global System of Geostationary Orbit Satellites in the Radionavigation-Satellite Service*, File No. SAT-AMD-20040524-00106, filed May 24, 2004 (Lockheed May 2004 Amendment).

9 *See Lockheed Martin Corp., Amendment to Application for Authority to Launch and Operate a Global System of Geostationary Orbit Satellites in the Radionavigation-Satellite Service*, File No. SAT-AMD-20041012-00197, filed October 12, 2004 (Lockheed October 2004 Supplemental Amendment).

4. Lockheed indicates that its proposed space station at the 107.3° W.L. orbital location (referred to as LM-RPS2) will operate in conjunction with and in full compatibility with the United States Global Positioning System (GPS), as part of the Federal Aviation Administration (FAA) Wide Area Augmentation System (WAAS), to provide more accurate navigation information with high integrity, in particular for the aviation community.[11] The FAA WAAS system will provide GPS augmentation messages to two of Lockheed's uplink earth stations, to be located within the United States.[12] These two earth stations will uplink the augmentation messages to the LM-RPS2 space station using the 6615.17-6635.67 MHz and 6666.20-6686.70 MHz frequency bands.[13] The received augmentation messages will then be transmitted in the downlink in the L-band, specifically in the 1166.20-1186.70 MHz and the 1565.17-1585.67 MHz frequency bands[14] to receive earth stations. These augmentation messages contain error correction information that provides for differential correction of the GPS receive signals, resulting in more accurate GPS navigation information. This enhanced information will be used to improve aircraft navigation, automated farming, mining operations, and other applications that rely on precise position and navigation information.[15] In addition, Lockheed requests a waiver of the bond requirement contained in Section 25.165 of the Commission's rules.[16]

III. DISCUSSION

A. Processing Procedure

5. In the *First Space Station Reform Order*, the Commission adopted various procedural reforms to expedite the satellite licensing process.[17] In revising the satellite licensing rules, the Commission adopted two different licensing frameworks – a modified processing round approach for non-geostationary satellite orbit (NGSO)-like systems and a "first-come, first-served" procedure for geostationary satellite orbit (GSO)-like systems.[18] The Commission defined GSO-like satellite systems as GSO satellites designed to operate with directional antennas.[19] Examples of the GSO-like satellite systems are those that use earth station antennas with directivity towards the satellites, such as fixed-satellite service (FSS) space stations, and mobile-satellite service (MSS) feeder links that use GSO satellites.[20] The Commission defined NGSO-like satellite systems as NGSO satellite constellations and

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[10] *See Lockheed Martin Corp., Amendment to Application for Authority to Launch and Operate a Global System of Geostationary Orbit Satellites in the Radionavigation-Satellite Service,* File No. SAT-AMD-20050210-00036, filed February 10, 2005 (Lockheed February 2005 Interference Analysis Amendment).

[11] *See* Lockheed February 2004 Amendment at 11.

[12] *Id.* at 12.

[13] For purposes of this *Order,* the term "extended C-band" refers to the 6425-6725 MHz frequency band.

[14] For purposes of this *Order,* the term "L-band" refers to the 1559-1610 MHz (L1 frequency band) and the 960-1215 MHz (L5 frequency band).

[15] *See* Lockheed February 2004 Amendment at 12.

[16] *See* 47 C.F.R. § 25.165.

[17] *See* Amendment of the Commission's Space Station Licensing Rules and Policies, *First Report and Order and Further Notice of Proposed Rulemaking*, IB Docket No. 02-34, 18 FCC Rcd 10760, 10776-77 (para. 7) (2003) (*First Space Station Licensing Reform Order)*.

[18] *Id*. at 10773 (para. 21).

[19] 47 C.F.R. § 25.158(a).

[20] 47 C.F.R. § 25.158(a); *First Space Station Licensing Reform Order*, 18 FCC Rcd at 10773 (para. 21).

GSO satellites communicating with omni-directional earth station antennas.[21] The Commission also noted that NGSO-like satellite systems, unlike GSO-like satellite systems, generally cannot operate on the same spectrum without causing unacceptable interference to each other.[22] Accordingly, the Commission concluded that a band segmentation approach would be preferable for such applications because it would facilitate additional market entry.[23]

6. In its original 1999 application and subsequent amendments, Lockheed requests authority to utilize frequencies in the L-band and C-band spectrum for its proposed radionavigation satellite service. Specifically, Lockheed requests FSS spectrum, the 6615.17-6635.67 MHz and 6666.20-6686.70 MHz frequency bands for its feeder uplinks.[24] In the *First Space Station Reform Order,* the Commission adopted a first-come, first-served procedure for applications for feeder links to GSO spacecrafts.[25] Therefore, we conclude that this portion of Lockheed's application will be considered a GSO-like satellite application and will be processed under the first-come, first-served rules.

7. Lockheed also requests authority to operate in the L-band (the 1166.20-1186.70 MHz and the 1565.17-1585.67 MHz frequency bands) for its service downlinks.[26] Generally, applications for service links in GSO MSS systems are classified as "NGSO-like" and considered in modified processing rounds.[27] However, in our Order authorizing Lockheed to operate an RNSS payload on a satellite at the 133° W.L. orbital location, we recently found that Lockheed's proposed NGSO-like L-band operations warranted a waiver of the Commission's rules to allow us to consider that portion of the application on a first-come, first-served basis.[28] This is because Lockheed proposed to operate in the same portion of the L-band as the U.S. GPS system, and all such satellite systems must coordinate with and be compatible with the U.S. GPS system. Thus, band segmentation is not necessary to ensure that future applicants are able to operate in these frequency bands.[29] For the same reasons, we conclude that Lockheed's proposed L-band operations at the 107.3° W.L. orbit location also warrant a waiver of the Commission's rules to allow us to consider that application on a first-come, first-served basis.[30]

B. Legal Qualifications

1. General

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21 *First Space Station Licensing Reform Order*, 18 FCC Rcd at 10773 (para. 21).

22 *See First Space Station Licensing Reform Order*, 18 FCC Rcd at 10773 (para. 21).

23 *See First Space Station Licensing Reform Order*, 18 FCC Rcd at 10773 (para. 22).

24 *See* Lockheed February 2004 Amendment at 11.

25 *See First Space Station Reform Order*, 18 FCC Rcd at 10810-10811 (paras. 125-130).

26 *See* Lockheed February 2004 Amendment at 12.

27 *See* 47 C.F.R. § 25.158(a). *See also First Space Station Reform Order,* 18 FCC Rcd at 10773-74 (para. 21-22).

28 *See Lockheed 133° W.L. Order* at para. 15.

29 *See Lockheed 133° W.L. Order* at para. 15.

30 Lockheed also requests a waiver of Section 25.116(b)(1) of the Commission's rules. Under this rule Lockheed's amendment is classified as "major" and is subject to public notice. In addition, major amendments to GSO-like applications cause the application to be moved to the end of the queue. Lockheed argues that a waiver is warranted because relocating the satellite resolves a frequency conflict. We conclude that Lockheed has not provided good cause for a waiver of Section 25.116(b)(1), because it has not shown that placing its amendment application on public notice or moving its underlying application to the end of the queue would cause hardship or be inequitable.

8. In considering an application to launch and operate a new satellite system, we must determine whether a grant will serve the public interest. In making this determination, we consider whether the applicant is legally, technically, and otherwise qualified to operate the satellite. Since Lockheed's legal qualifications are a matter of record with the Commission,[31] and no commenter questioned these qualifications, we find that Lockheed is legally qualified to hold a satellite license.

2. Hosted Payload Arrangement

9. LM-RPS2 will operate as a payload on Telesat's ANIK-F1R satellite, which is licensed by Canada. Such arrangements, although infrequently used, are not without precedent.[32] We have exchanged letters with Industry Canada, the licensing administration for Telesat's ANIK F1R satellite, in order to ensure that there is a mutual understanding regarding the operations of the LM-RPS2 payload aboard Telesat's ANIK F1R satellite. The understandings, and the factual background for these understandings, are provided as Appendix B, and are material considerations for the authorization contained in this Order. We note that, pursuant to the understandings, the FCC will be the licensing administration for the L-band and the extended C-band facilities (the LM-RPS2 payload) on board the ANIK-F1R satellite. Therefore, we will hold Lockheed responsible for all its operations pursuant to this authorization.

(a) Telemetry, Tracking and Command (TT&C) Arrangements

10. In its February 2004 amendment, Lockheed states that it is not seeking authority to operate TT&C frequencies. Lockheed further explains that Telesat will control the ANIK-F1R satellite via TT&C earth station facilities located in Canada, and will also provide certain services for the LM-RPS2 payload under the direction and control of Lockheed, under contract with Lockheed.[33] Therefore, we are not granting Lockheed authority to operate on any TT&C spectrum. All TT&C transmissions shall be conducted by Telesat pursuant to its Canadian license. Lockheed, however, remains responsible as a licensee for ensuring compliance with the terms and conditions of this license, and the Commission rules, including the Commission's station-keeping requirements.

11. Although Telesat will be performing the TT&C operations of the LM-RPS2 space station, we require licensees to have the ability to cease operations, should they be required to do so.[34] Based on Lockheed's February 2005 amendment, in which it describes the measures it will take to control its proposed RNSS payload aboard Telesat's ANIK-F1R satellite, we find that Lockheed will meet this requirement.[35] Specifically, Lockheed will have the capability of "turning off" the LM-RPS2 payload so that no radio emissions are generated by that payload. Lockheed and Telesat plan to design and implement a computer-based system to allow a "deactivation" command to be sent from Lockheed's U.S. facility to Telesat's Canadian facilities. This will force the automated deactivation of the LM-RPS2

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[31] *See Lockheed 133° W.L. Order* at para. 17.

[32] *See, e.g.,* GTE Spacenet Corporation/Geostar Corporation, *Memorandum Opinion, Order and Authorization,* 2 FCC Rcd 5312 Com. Car. Bur. (1987) (RDSS payload aboard FSS satellite).

[33] *See* Lockheed February 2004 Amendment at 5 and 13. *See also* Lockheed May 2004 Amendment at 2-3.

[34] *See e.g.* Section 706(c) of the Communications Act of 1934, as amended, 47 U.S.C. §606(c); 2000 Biennial Regulatory Review -- Streamlining and Other Revisions of Part 25 of the Commission's Rules Governing the Licensing of, and Spectrum Usage By, Satellite Network Earth Stations and Space Stations, *Fifth Report and Order in IB Docket No. 00-248 and Third Report and Order in CC Docket No. 86-496,* IB Docket No. 00-248, CC Docket No. 86-496, 20 FCC Rcd 5666, 5716-17 (para. 139) (2005) (*Part 25 Fifth Report and Order*).

[35] On July 7, 2005, Lockheed filed, under a request for confidentiality, a copy of the Subcontract Agreement for Payload Deactivation Capability, it executed with Telesat Canada on June 29, 2005.

payload, without any individual intervention at Telesat's facilities. Both parties have also agreed that, in the event that the LM-RPS2 payload has been deactivated through the use of this capability, Telesat will not reactivate the LM-RPS2 payload until Telesat receives formal written direction from Lockheed. Accordingly, we condition this authorization on Lockheed's ability to send a deactivation command from its U.S. facility to Telesat's Canadian facility.

(b) Orbital Debris Mitigation

12. As indicated in the exchange of letters between the FCC and Industry Canada, Telesat shall dispose of the LM-RPS2 space station pursuant to its Canadian authorization and ITU-R Recommendation S.1003-1.[36] We find that the requirements of Recommendation S.1003-1 are identical to the Commission's orbital debris requirements. Accordingly, we conclude that Lockheed will comply with the Commission's end-of-life disposal requirements.

C. Technical Qualifications

1. Feeder Uplinks

13. Lockheed proposes to uplink augmentation messages[37] in the 6615.17–6635.67 MHz and 6666.20-6686.70 MHz frequency bands to the LM-RPS2 space station from two feeder uplink earth stations within the United States.[38] We consider Lockheed's proposed feeder uplinks as a Fixed Satellite Service (FSS), due to the fact that the uplink earth stations will be communicating with the LM-RPS2 space station from fixed points.[39] Lockheed's proposed frequencies are allocated to the Fixed Service (FS) and FSS (Earth-to-space) on a primary basis and subject to footnotes 5.458 and US342 of the Table of Frequency Allocations.[40] Below, we address these footnotes and other issues for these frequency bands.

(a) Protection of Passive Services in the 6425-7025 MHz Frequency Band

14. Footnote 5.458 indicates that, in the 6425-7075 MHz frequency band, passive sensors measurements are carried out over the ocean and that administrations should bear in mind the needs of the Earth exploration-satellite (passive) and space research (passive) services in their future planning of the bands 6425-7025 MHz.[41] Lockheed states that it will comply with all applicable domestic and international requirements in coordination of its system.[42] Therefore, we remind Lockheed to bear in

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[36] *See* Appendix B.

[37] Augmentation messages referred to here are messages that contain error correction information that provide for differential corrections to the GPS receive signals, resulting in more accurate GPS navigation information. *See* Lockheed February 2004 Amendment at 11.

[38] *See* Lockheed February 2004 Amendment, Revised Table 4.1-1.

[39] FSS is a radiocommunication service between earth stations at given points and one or more satellites. *See* Amendment of Parts 2, 25 and 97 of the Commission's Rules with Regard to the Mobile-Satellite Service Above 1 GHz, *Report and Order,* ET Docket No. 98-142, 17 FCC Rcd 2658, 2659 n. 1 (2002). *See also* 47 C.F.R. §2.1.

[40] *See* 47 C.F.R. § 2.106 footnote 5.458 and footnote US342. In addition, Section 25.203(c) of the Commission's rules requires that an Earth station applicant, prior to filing its application, shall coordinate its proposed frequency usage with existing terrestrial users and with applicants for terrestrial station authorizations. Therefore, we remind Lockheed that it is required to coordinate its two feeder uplink earth stations operations with all existing terrestrial users and all applicants for terrestrial station authorization prior to filing its earth station application. *See also* 47 C.F.R. § 25.203(c). *See also Lockheed 133° W.L. Order* at para. 25.

[41] *See* 47 C.F.R. § 2.106 footnote 5.458.

[42] *See* Lockheed February 2004 Amendment, Appendix J at 1.

mind the needs of these services when designing and operating its LM-RPS2 system.

(b) Protection of Radio Astronomy Service

15. Footnote US342 of the U.S. Table of Allocations states that anyone operating a station in the 6650-6675.2 MHz frequency band shall take all practicable steps to protect radio astronomy service from harmful interference.[43] We note that portions of Lockheed's proposed feeder uplink operations, specifically, the 6666.20-6675.20 MHz frequency band, fall within the band specified in this footnote. Lockheed states that it will comply with all applicable domestic and international requirements in coordinating its system.[44] Therefore, we will require Lockheed to take all practicable steps to avoid causing harmful interference to the radio astronomy service in the 6650-6675.2 MHz frequency band.

(c) Compliance with Commission Technical Requirements—Two Degree Spacing

16. The Commission's licensing policy for GSO satellites is predicated upon two-degree orbital spacing between satellites.[45] This policy permits the maximum use of the geostationary-satellite orbit. On June 16, 2004, the Commission issued a Public Notice in which the Commission provided clarification of Section 25.140(b)(2) of the Commission's Rules, concerning space station application interference analysis requirements.[46] In the Public Notice, the Commission expressly stated that Section 25.140(b)(2) of the Commission's Rules applies to "[a]ny geostationary satellite orbit space station application for operation in any FSS frequency band." Since Lockheed requested FSS allocated spectrum for its feeder uplinks, we found that this request rendered this rule applicable to Lockheed's LM-RPS2application. On January 26, 2005, we requested that Lockheed provide an interference analysis pursuant to the Public Notice.[47]

17. On February 10, 2005, Lockheed amended its application to provide the requested interference analysis.[48] We find that this analysis conforms to the interference analysis rule and that Lockheed's proposed feeder link operations comply with our two-degree spacing requirements. We also conclude that granting Lockheed's LM-RPS2 application will not result in harmful interference to any previously licensed satellite.

2. Radionavigation-Satellite Service Downlinks

18 Lockheed requests authority to operate its service downlinks in the 1166.20-1186.70 MHz and the 1565.17-1585.67 MHz frequency bands. These frequency bands are allocated to both the

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43 *See* 47 C.F.R. § 2.106 footnote US342.

44 *See* Lockheed February 2004 Amendment, Appendix J at 1.

45 *See* Licensing Space Stations in the Domestic Fixed-Satellite Service*, Report and Order*, 48 F.R. 40233 (1983).

46 For more on the Commission's two-degree spacing information requirements, see *Public Notice*, International Bureau Satellite Division Information: Clarification of 47 C.F.R. § 25.140(b)(2), Space Station Application Interference Analysis, No. SPB-195, 18 FCC Rcd 25099 (2003) as clarified by International Bureau Satellite Division Information: Clarification of 47 C.F.R. §25.140(b)(2), Space Station Interference Analysis, *Public Notice*, SPB-207, DA 04-1708 (rel. June 16, 2004) (*June 16th Public Notice*).

47 *See* letter to Ms. Jennifer Warren, Counsel to Lockheed Martin, from Thomas Tycz, Chief, Satellite Division, FCC, dated January 26, 2005 (*Lockheed January 26, 2005 Letter).*

48 *See also Lockheed Martin Corp., Amendment to Application for Authority to Launch and Operate a Global System of Geostationary Orbit Satellites in the Radionavigation Satellite Service,* File No. SAT-AMD-20050210-00036, filed February 10, 2005 (Lockheed February 2005 Amendment).

Aeronautical Radionavigation service and the Radionavigation-Satellite (space-to-Earth) service on a primary basis. However, the 1166.20-1186.70 MHz frequency band is subject to footnote US385[49] and ITU-R Resolution 609 (Resolution 609).[50] Below, we address this footnote, Resolution 609, and protection of the Global Positioning System (GPS).[51]

(a) Protection of Aeronautical Radionavigation Service in the 1164-1215 MHz Frequency Band

19. Within the United States, footnote US385 of the U.S. Table of Frequency Allocations requires that radionavigation-satellite services operating in the 1164-1215 MHz frequency band shall not cause harmful interference to, nor claim protection from, stations of the aeronautical radionavigation service.[52] Therefore, Lockheed may not to cause harmful interference to, nor claim protection from, stations operating in the aeronautical radionavigation service.

20. Internationally, the 1164-1215 MHz frequency band is allocated to both the radionavigation-satellite service (RNSS) and the aeronautical radionavigation service (ARNS), on a primary basis, subject to Resolution 609. Resolution 609 requires that the equivalent power flux density (epfd) produced by all RNSS space stations operating in the 1164-1215 MHz frequency band, shall not exceed the aggregate epfd level of -121.5 dB(W/m^2) in any 1 megahertz band for all angles of elevation. The resolution further states that, in order to achieve this objective, administrations operating or planning to operate RNSS systems shall agree cooperatively, through consultation meetings, to equitable shared aggregate epfd.

21. We note that to date, there have been three such consultation meetings and Lockheed has participated in all three of these meetings for its RNSS system operating in the 1164-1215 MHz band on behalf of the U.S. Administration. In the Report of the Third Resolution 609 Consultation Meeting, it was concluded that, to date, all systems operating or planning to operate in the 1164-1215 MHz frequency band, including the LM-RPS2 space station, collectively have not exceeded the -121.5 dB(W/m^2) in any 1 megahertz bandwidth.[53] Lockheed states that it will comply with all applicable domestic and international requirements required for coordination of its system, as well as comply fully, to the extent applicable, with the consultation requirements of Resolution 609.[54] Therefore, as part of its consultation requirements under Resolution 609, we will require Lockheed to continue to participate in these consultation meetings and coordinate with other RNSS operators. Additionally, we will require Lockheed to report the results of these consultation meetings to the Commission within thirty days after the conclusion of the meetings.

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49 *See* 47 C.F.R. § 2.106, US Table of Frequency Allocations, footnote US385.

50 *See* ITU-R Radio Regulation, Resolution 609 (Resolution 609).

51 A number of commenters took issue with Lockheed's original L-band frequency band requests. *See* Globalstar Comments at 2; Boeing Petition at 2; PanAmSat Petition at 2. Similarly, Motorola raises concerns regarding possible out-of-band interference from the Lockheed system. *See* Motorola Comments at 1. These concerns were addressed by subsequent amendments to the Commission's rules. *See* Amendment of Parts 2 and 25 to Implement the Global Mobile Personal Communications by Satellite (GMPCS) Memorandum of Understanding and Arrangements, *Second Report and Order*, IB Docket No. 99-67, 18 FCC Rcd 24423, 24520-25 (paras. 94-99) (2003). *See also* 47 C.F.R. § 25.216.

52 *See* 47 C.F.R. § 2.106, footnote US385.

53 *See* Letter regarding Report of the Third Resolution 609 (WRC) Consultation Meeting to Director, Radiocommunication Bureau, ITU, from Kathryn O'Brien, Chief, Strategic Analysis and Negotiations Division, FCC (dated June 27, 2004) (800C2/SEB05204) (Report of the Third Resolution 609 Consultation Meeting).

54 *See* Lockheed February 2004 Amendment, Appendix J at 1.

(b) Protection of U.S. Global Positioning System (GPS)

22. We note that the U.S. GPS system uses the same frequencies that Lockheed is requesting for its LM-RPS2 space station downlinks. Specifically, these frequencies include the 1166.20-1186.70 MHz and the 1565.17-1585.67 MHz frequency bands. We recognize that the U.S. GPS system provides service of national importance to the U.S. Government, including the military, businesses and civilians. Therefore, we find that it is critical that Lockheed's space station operations do not cause harmful interference to the operations of the U.S. GPS system. In its application, Lockheed assured the Commission that it would not cause harmful interference to the U.S. GPS system. Specifically, Lockheed maintained that its LM-RPS2 space station will operate in conjunction with and in full compatibility with the U.S. GPS system.[55] Lockheed further assured that it will utilize similar signal structure and architecture to the U.S. GPS system (*i.e.* Code Division Multiple Access (CDMA)) in order to achieve maximum compatibility. Previously, the Commission has acknowledged that systems using CDMA architecture may be able to share the same spectrum, through coordination, without causing harmful interference to each other.[56]

23. Based on the results of the Third Resolution 609 Consultation Meeting, which include the LM-RPS2 space station and the U.S. GPS system, we find that both of these systems have complied with this resolution.[57] Therefore we conclude that the Lockheed LM-RPS2 space station operations will be compatible with and therefore will be able to share the L-band spectrum with the U.S. GPS system without causing harmful interference.[58] Nevertheless, we will require Lockheed to coordinate with the operator(s) of the U.S. GPS system in order to ensure maximum compatibility and to avoid causing any harmful interference to the aeronautical radionavigation service and the U.S. GPS system. In the event of any interference, either from complaints received or its own observation, we will require Lockheed to immediately cease all operations and remedy the interference. Lockheed will also be required to inform the Commission within three days of such occurrence(s) explaining the specific measures taken to mitigate the interference.

D. Milestones

24. In the *First Space Station Licensing Reform Order,* the Commission, noting that milestones are intended to ensure that licensees provide service to the public in a timely manner and do not warehouse scarce orbit and spectrum resources, codified its milestone policy in Section 25.164 of its rules.[59] Consistent with this, we require that Lockheed execute a binding contract for construction of its LM-RPS2 space station within one year of this grant, complete the Critical Design Review within two years, commence physical construction within three years, and launch and begin operations within five years.

E. Bond Requirement

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[55] *See* Lockheed February 2004 Amendment at 11.

[56] *See* Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626/2483.5- 2500 MHz Frequency Bands, *Report and Order*, CC Docket No. 92-166, 9 FCC Rcd 5936, 5948 (para. 26) (1994) *(Big LEO Report and Order*).

[57] *See* Report of the Third Resolution 609 Consultation Meeting.

[58] *Id.* at 3-4.

[59] *See* 47 C.F.R. § 25.164. *See also First Space Station Licensing Reform Order,* 18 FCC Rcd at 10828 (para. 173).

1. Background

25. In its *First Space Station Licensing Reform Order*, the Commission eliminated the financial requirements then in place and replaced them with a bond requirement.[60] Under this bond requirement, any entity awarded a license for a GSO satellite must execute a payment bond, payable to the U.S. Treasury, within 30 days of the date of the license grant. The bond is payable upon failure to meet any implementation milestone in the license, where adequate justification for extending that milestone is not provided.[61] Licensees may reduce the amount of the bond upon meeting each milestone.[62]

2. Timing of Application

26. Lockheed requests a waiver of the bond requirement. Lockheed asserts that this requirement is intended to deter the filing of speculative applications by establishing significant financial consequences for licensees that fail to proceed with their applicants in a timely manner.[63] Lockheed further claims that its RPS applications were filed more than four years before this requirement became effective and it is not clear whether it is appropriate for the Commission to enforce this cost upon applicants that submitted applications without notice that such additional financial requirements might be imposed.[64]

27. We disagree with Lockheed. In the *First Space Station Reform Order*, the Commission clearly stated its intention to apply the new rules to pending applications.[65] The Commission noted that "applying new procedures to pending satellite applications would not impair the rights that any applicant possessed when it filed its application, nor impose any new duty with respect to a transaction already completed."[66] Additionally, in the *Fifth Space Station Reform Order,* the Commission reaffirmed that the "bond requirement applies to all licenses granted after the requirement took effect, regardless of when the application for each of those licenses was filed."[67]

3, Public Safety

28. Lockheed also requests a waiver of the bond requirement based on its intention to provide "public safety services." In its *First Space Station Licensing Reform Order,* the Commission stated that it would entertain requests for complete or partial waivers of this bond requirement, "for satellite operators

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60 *Id* at 10826 (para. 170).

61 *Id*.

62 *Id*. at 10826-27 (para. 172).

63 *See* Lockheed February 2004 Amendment at 17.

64 *Id.*

65 *See First Space Station Licensing Reform Order,* 18 FCC Rcd at 10820 (para. 275).

66 *Id.* at 10821 (para. 277-78).

67 *See* Amendment of the Commission's Space Station Licensing Rules and Policies, *First Order on Reconsideration and Fifth Report and Order*, IB Docket No. 02-34, 19 FCC Rcd 12637, 12663-64 (paras. 71-72) (2003) (*Fifth Space Station Reform Order).* In this *Report and Order,* the Commission also addressed arguments similar to the ones Lockheed raised in its February 2004 Amendment. Specifically, the Commission rejected Northrop Grumman's argument that some parties that have prosecuted their application for years would now be "penalized" by a bond requirement. *Fifth Space Station Licensing Reform Order*, 19 FCC Rcd at 12663 (para. 72).

proposing satellites designed to provide public safety services."[68] Lockheed argues that its RPS space station will provide critical air navigation information through augmentation of the U.S. GPS system, enhancing the safety of the U.S. air traffic control system.[69]

29. In the *First Space Station Licensing Reform Order,* the Commission noted that it would consider things such as public safety intent in deciding whether to waive the bond requirement.[70] Later, in the *MSV Order*, the Bureau defined "public safety services" for these purposes as services in which "the sole or principal purpose . . . is to protect the safety of life, health, or property, that are provided by . . governmental entities or by nongovernmental organizations that are authorized by a governmental entity whose primary mission is the provision of such services and that are not made commercially available to the public by the provider."[71] The Bureau further explained that, in assessing "public safety intent," it would determine whether the proposed satellite is wholly or partially designed for the specific purpose of providing public safety services.[72]

30. In the *MSV Order*, the applicant requested a bond waiver, asserting that a "push to talk" feature on its handsets had proven useful in coordinating rescue efforts.[73] The Bureau found MSV had fallen short of the public safety intent needed for a bond waiver because MSV's application revealed that the primary purpose for the "push to talk" feature was to allow MSV to compete in the marketplace better.[74] The Bureau also noted that all MSS systems are inherently useful in providing public safety service because the user terminals are small and transportable, and so applicants must provide more to demonstrate a "public interest intent" that would warrant a bond waiver.[75]

31. In making a public interest benefit assessment, we look to see if Lockheed in its application expressed the requisite "public safety intent" for its proposed service. We find here that Lockheed's bond waiver request is substantially similar to the request that was denied in the *MSV Order*. Lockheed explains that, while its proposed LM-RPS system will be used to ensure the transmission of more precise information for aircraft navigation, it will also be used to provide automated farming, mining operations and other applications that rely on navigation and positional precision.[76] Thus, although Lockheed's RNSS service will be inherently useful for aircraft navigation, it will also be used to provide other commercial services that are not primarily for public safety. Therefore, though we find that these commercial services would further the public interest, we do not conclude that they fall under the limited category of "public safety services" that would justify a waiver of the bond requirement. Therefore, we deny Lockheed's waiver request and require Lockheed to post a $3 million bond within 30 days of the release of this Order. If Lockheed does not submit this bond by the required date, this authorization shall be null and void.

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68 *See First Space Station Licensing Reform Order,* 18 FCC Rcd at 10825 (para. 169). *See also* Mobile Satellite Ventures Subsidiary, LLC, Application for Authority Launch and Operate an L-band Mobile Satellite Service Satellite at 63.5° W.L., *Order and Authorization*, 20 FCC Rcd 479 (Int'l Bur., 2005) (*MSV Order).*

69 *See* Lockheed February 2004 Amendment at 18.

70 *First Space Station Licensing Reform Order,* 18 FCC Rcd at 10825 (para. 169).

71 *MSV Order,* 20 FCC Rcd at 491 n.72. The Bureau based this definition on Section 338(f)(1) of the Communications Act, 47 U.S.C. § 338(f)(1).

72 *MSV Order*, 20 FCC Rcd at 491-92 (paras. 34-35).

73 The "push-to-talk" feature allowed users to transmit to several other individuals simultaneously. *MSV Order*, 20 FCC Rcd at 491 (para. 33).

74 *MSV Order*, 20 FCC Rcd at 491-92 (para. 35).

75 *MSV Order*, 20 FCC Rcd at 491-92 (para. 35).

76 Lockheed February 2004 Amendment at 12. *See also Lockheed 133° W.L. Order* at para. 42.

IV. CONCLUSION AND ORDERING CLAUSES

32. We have reviewed Lockheed Martin Corporation's application and all associated amendments, comments, pleadings, and other documents of record. Based on that review, we conclude that Lockheed is legally, technically, and otherwise qualified to operate its LM-RPS2 satellite space station at the 107.3° W.L. orbital location and that grant of the application, subject to the limitations and conditions specified herein, will serve the public interest, convenience, and necessity.

33. Accordingly, IT IS ORDERED, pursuant to Sections 301 and 309 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 301, 309, and Section 25.113(g) of the Commission's rules, 47 C.F.R. § 25.113(g), that Lockheed Martin Corporation's Application File No. SAT-LOA-19990427-00046, as amended by SAT-AMD-20030730-00150, SAT-AMD-20040130-00008, SAT-AMD-20040205-00012, SAT-AMD-20040524-00106, SAT-AMD-20041012-00197 and SAT-AMD-20050210-00036, Call Sign S2371, IS GRANTED and Lockheed Martin Corporation is authorized to construct, launch, and operate its LM-RPS2 space station aboard Telesat Canada Corporation's ANIK F1R satellite at the 107.3 W.L. orbital location in the 6615.17–6635.67 MHz (Earth-to-space) and 6666.20-6686.70 MHz (Earth-to-space) frequency bands for feeder uplinks and in the 1166.20-1186.70 MHz (space-to-Earth) and the 1565.17-1585.67 MHz (space-to-Earth) frequency bands for RNSS service downlinks, in accordance with the terms, conditions, and technical specifications set forth in its application, as amended, and this *Order* and *Authorization*.

34. IT IS FURTHER ORDERED that Lockheed Martin Corporation's request to waive Section 25.116(b)(1) of the Commission's rules IS DENIED.

35. IT IS FURTHER ORDERED that Lockheed Martin Corporation's request to waive Section 25.165 of the Commission's rules IS DENIED.

36. IT IS FURTHER ORDERED that the Boeing Company's 1999 Petition to Deny and PanAmSat Satellite Corporation's 1999 Petition to Deny in Part are DISMISSED AS MOOT.

37. IT IS FURTHER ORDERED that the LM-RPS2 space station must be constructed, launched, and placed into operation in accordance with the technical parameters set forth in its application and amendments and terms and conditions of this authorization by the time periods specified in Section 25.164(a) of the Commission's Rules, 47 C.F.R. § 25.164(a). In addition, Lockheed Martin Corporation must post a $3 million bond with the Commission, pursuant to the procedures set forth in Public Notice, DA 03-2603, 18 FCC Rcd 16283 (2003), within 30 days of the release date of this Order. Failure to meet any of these dates shall render this authorization null and void without any further action by the Commission. *See* 47 C.F.R. §§ 25.161 and 25.164. IT IS FURTHER ORDERED that this condition will not apply if the LM-RPS2 space station is launched before the bond is due.

38. IT IS FURTHER ORDERED that Lockheed Martin Corporation shall prepare the necessary information, as may be required, for submission to the ITU to initiate and complete the advance publication, international coordination, due diligence, and notification process of this space station, in accordance with the ITU Radio Regulations. Lockheed Martin Corporation shall be held responsible for all cost recovery fees associated with these ITU filings. We also note that no protection from interference caused by radio stations authorized by other administrations is guaranteed unless coordination and notification procedures are timely completed or, with respect to individual administrations, by successfully completing coordination agreements. Any radio station authorization for which coordination has not been completed may be subject to additional terms and conditions as required to effect coordination of the frequency assignments of other administrations. *See* 47 C.F.R. § 25.111(b).

39. IT IS FURTHER ORDERED that Lockheed Martin Corporation shall inform the Commission in writing of any disruption in service(s) lasting more than thirty minutes. *See* 47 C.F.R. § 25.210(k)(1)(2).

40. IT IS FURTHER ORDERED that Lockheed Martin Corporation shall not cause harmful interference to, nor claim protection from, stations of the aeronautical radionavigation service in the 1164-1215 MHz frequency band.

41. IT IS FURTHER ORDERED that Lockheed Martin Corporation shall comply with all requirements of ITU-R Resolution 609 regarding its use of the 1164-1215 MHz frequency band. Specifically, Lockheed is required to continue participating in the ITU-R Resolution 609 consultation meetings and coordinate in good faith with other RNSS operators at the meetings. Additionally, Lockheed is required to report the results of these consultation meetings to the Commission within thirty days after the conclusion of the meetings.

42. IT IS FURTHER ORDERED that Lockheed Martin Corporation is required to coordinate with the operator(s) of the U.S. GPS system in order to ensure maximum compatibility and to avoid causing any harmful interference to the GPS systems from it operations. In the event of any interference, either from complaints received or its own observation, Lockheed Martin Corporation is required to cease all operations and remedy the interference. Lockheed Martin Corporation is also required to inform the Commission within three days of such occurrence(s) explaining measures taken to mitigate the interference.

43. IT IS FURTHER ORDERED that Lockheed Martin Corporation's operational authority is conditioned on its ability to send a deactivation command from a U.S. facility to Telesat Canada's facility, without any individual intervention at Telesat Canada's facility, that can terminate transmissions from the LM-RPS2 payload.

44. IT IS FURTHER ORDERED that the license term for the LM-RPS2 space station, Call Sign S2371, is fifteen years and will begin to run on the date that Lockheed Martin Corporation certifies to the Commission that the satellite has been successfully placed into orbit and its operation fully conforms to the terms and conditions of this authorization.

45. Lockheed Martin Corporation is afforded thirty days from the date of adoption of this grant and authorization to decline this authorization as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.

46. This grant is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective upon release. Petitions for reconsideration under Section 1.106 or applications for review under Section 1.115 of the Commission's rules, 47 C.F.R. §§ 1.106, 1.115, may be filed within 30 days of the date of the public notice indicating that this action was taken.

FEDERAL COMMUNICATIONS COMMISSION

Cassandra C. Thomas
Acting Chief
Satellite Division

Appendix A

I. Pleadings related to Lockheed Original 1999 Application (File No. SAT-LOA-19990427-00046)

- Comments of Globalstar LP (filed June 28, 1999).
- Comments of Motorola, Inc. (filed June 28, 1999).
- Comments of GE American Communications, Inc. (filed June 28, 1999).
- PanAmSat Corporation Petition to Deny in Part (filed June 28, 1999).
- Boeing Petition to Deny (filed June 29, 1999).
- Lockheed Martin Corporation Consolidated Opposition to Petition to Deny and Reply to Comments (filed July 13, 1999).
- PanAmSat Corporation Reply to Lockheed Martin Consolidated Opposition to Petition to Deny (filed July 30, 1999).
- Boeing Reply Comments (filed July 30, 1999).

II. Pleadings related to Lockheed 2003 Amendment (File No. SAT-AMD-20030730-00150)

- Comments of PanAmSat Corporation (filed September 17, 2003).
- Reply Comments of Lockheed Martin Corporation (filed October 1, 2003).

III. Pleadings related to Lockheed January 2004 Amendment (File No. SAT-AMD-20040130-00008)

- No comments filed

IV. Pleadings related to Lockheed February 2004 Amendment (File No. SAT-AMD-20040205-00012)

- No comments filed

Appendix B: Exchange of Letters

Federal Communications Commission
Washington, D.C. 20554

September 6, 2005

Ms. Chantal Beaumier
Director, Space and International Regulatory Activities
Radiocommunications and Broadcasting Regulatory Branch
Industry Canada
15th Floor, 300 Slater Street
Ottawa, Ontario, Canada
K1A 0C8

Re: Lockheed Martin's proposed operation of the LM-RPS2 payload on board Telesat's ANIK-F1R satellite

Dear Ms. Beaumier:

This letter is to confirm the informal understanding of Industry Canada and the Federal Communications Commission (FCC) concerning the proposed operations of the ANIK F1R spacecraft.

There are three radio communications payloads on board the ANIK F1R satellite. They consist of: 1) a commercial communications payload operating in the conventional C and Ku bands, 2) a Radionavigation Satellite Service (RNSS) payload (referred to as the LM-RPS2 payload) operating in the L-band and the extended C-band, and 3) a Telecommand, Telemetry and Control (TT&C) payload operating in the Ku-band.

Telesat Canada (Telesat) is authorized under the Radiocommunication Act and Radiocommunication Regulations by Industry Canada to operate a commercial communications satellite (ANIK F1R) using the C and Ku bands, including the TT&C payload, at the 107.3° W.L. orbital location, pursuant to Canada's ANIK-F1filing with the International Telecommunication Union (ITU). The C- and Ku-band commercial communications payload will be used to provide communications services within the service area of the payload. Telesat will also control the ANIK F1R spacecraft by means of the TT&C payload via TT&C earth station facilities located in Canada.

Lockheed Martin Corporation (Lockheed Martin) has filed an application with the FCC for authority under Title III of the Communications Act of 1934 and Part 25 of the Commission's rules to operate the LM-RPS2 payload pursuant to the United States Administration's LM-RPS-107.3W filing with the ITU. Pursuant to contractual agreements between Telesat and Lockheed Martin, Lockheed Martin will lease the LM-RPS2 payload from Telesat. In addition, under those agreements, Telesat will provide certain services for the LM-RPS2 payload under the direction and control of Lockheed Martin, with Lockheed Martin having the ability to deactivate the payload through facilities located in the United States. Those agreements are further described below.

The LM-RPS2 payload will operate in conjunction with and in full compatibility with the United States Global Positioning System (GPS), as part of the Federal Aviation Administration (FAA) Wide Area Augmentation System (WAAS). The WAAS provides users with additional information to enhance

the accuracy and reliability of positioning information derived from GPS signals. Lockheed Martin or an affiliated entity will transmit these signals to the LM-RPS2 payload using its earth station facilities located in the United States. Those earth stations will transmit information generated using other WAAS system components, such as fixed ground stations monitoring GPS signals.

The ANIK-F1R satellite will be launched into the 118.7° W.L. orbital location and the payloads on board the satellite will tested at that location. Upon completion of testing, the satellite will be moved to the 107.3° W.L. orbital location.

The Transaction Between Lockheed Martin and Telesat

Lockheed Martin (through its Transportation and Security Solutions business unit) and Telesat have entered into agreements whereby Lockheed Martin has contracted with Telesat to lease LM-RPS2, a satellite navigation payload which is to be integrated into Telesat's ANIK-F1R satellite, in order to provide space segment capacity in the RNSS that will be used to serve Lockheed Martin's customers. Under the agreements, Lockheed Martin holds exclusive rights to the use of the LM-RPS2 payload for the 10-year duration of the lease agreement. Pursuant to the agreements, Telesat will operate the C- and Ku-band commercial communications and the TT&C payloads of the ANIK-F1R satellite. Thus, as explained further below, Lockheed Martin will control the LM-RPS2 payload. Additionally, the agreements stipulate that, for the duration of the agreement, Telesat may not use the RNSS capacity to provide service to any customer other than Lockheed Martin.

Additionally, the agreements detail steps to be taken in the event of relocation of the spacecraft. Generally, Telesat may relocate the ANIK-F1R satellite to a new orbital position between 107.0° W.L. to 119.0° W.L., but only after providing Lockheed Martin with a minimum 120 day written notice. However, the agreements stipulate that Telesat may relocate the satellite to the 111.1° W.L. orbital location without seeking approval from Lockheed Martin. In addition, the agreements provide that, in the event of emergency restoration, Telesat may relocate the satellite to a different orbital location upon providing Lockheed Martin with advanced verbal and written notice as reasonably practicable under the circumstances. Further, the agreement provides that, in the event Telesat relocates the satellite to a new orbital location, and Lockheed Martin is required to obtain a modification to its license to operate the LM-RPS2 payload at this new orbital location and the FCC denies that modification request, Lockheed Martin has a right to terminate the agreement, with no additional cost, or without incurring termination liability, by giving Telesat written notice within 30 days of the license denial.

Under the agreements, Lockheed Martin will have a direct telecommunications interface into Telesat's satellite control facility in order to provide access to LM-RPS2 operational information, satellite maneuver information and other satellite information directly relevant to the performance of the LM-RPS2 payload. Furthermore, under the agreements, Lockheed Martin will also have the capability to "turn off" the LM-RPS2 payload so that no radio emissions are generated by that payload, using a simple computer-based system to allow a "deactivation" command to be sent from Lockheed Martin's facility located in the United States to Telesat's facility. Both parties have also agreed that, in the event that the LM-RPS2 payload has been deactivated through the use of this deactivation capability, Telesat shall not reactivate the LM-RPS2 payload until Telesat receives formal written direction from Lockheed Martin. Additionally, both parties have agreed that the deactivation command will be performed automatically, with no intervention required by operators at Telesat.

Informal Understandings Between Industry Canada and the FCC Concerning Lockheed Martin's proposed operation of the LM-RPS2 payload on board Telesat's ANIK-F1R satellite

It is my understanding that our agencies have concurred on the following technical issues concerning the operation of the LM-RPS2 payload on board the Telesat ANIK-FIR satellite:

1. Telesat will be authorized by Industry Canada to install the LM-RPS2 payload on board the ANIK F1R satellite, recognizing that the FCC will be responsible for authorizing the launch and operation of this payload, which is to be controlled by Lockheed Martin.

2. For purposes of Regulation 18.1 of the International Telecommunication Union (ITU) Radio Regulations, the FCC is the only licensing administration for the L-band [(L-1) 1565.17-1585.67 MHz and (L-5) 1166.20-1186.70 MHz) and the extended C-band (6615.17-6635.67 MHz and 6666.20-6686.70 MHz) facilities, referred to hereafter as LM-RPS2, on board the ANIK-F1R satellite, Industry Canada is the only licensing administration for the frequency bands 5925-6425 MHz, 3700-4200 MHz, 14000-14500 MHz and 11700-12200 MHz portion of the ANIK-F1R satellite. Recognizing that the relocation of the ANIK-F1R satellite falls under the jurisdiction of Industry Canada, the FCC's and Industry Canada's responsibilities regarding the operation of the payloads on board the ANIK F1R satellite will be unaffected by any change in the orbital location of the satellite.

3. Industry Canada and Telesat will be responsible for compliance with the ITU Radio Regulations (in particular the coordination and notification procedures) for the Canadian licensee's operations at 107.3° W.L., and for the testing of the C- and Ku-band commercial communications payload, and the TT&C payload at 118.7° W.L. The FCC and the U.S. Administration will have responsibility for such compliance with the ITU Radio Regulations for the U.S. licensee's operations at 107.3° W.L., and for the testing of the RNSS payload at 118.7° W.L. The FCC and Industry Canada will consult with each other, regarding their respective administrations' licensing authorities and responsibilities, prior to the relocation of the satellite, or as soon thereafter as possible. Additionally, Industry Canada and the FCC will consult with each other prior to any transfer of their respective licensing authority to a third administration.

4. The Canadian licensee, under the authority issued by Industry Canada, will maintain control over the physical operations of the ANIK-F1R satellite using TT&C earth station facilities located in Canada and licensed by Industry Canada. The U.S. licensee will retain the direct ability, through actions initiated using its United States facilities, to cease operations of its LM-RPS2 payload, without the need for consultation with, or approval from, Telesat or Industry Canada, in order to comply with any U.S. statute or FCC rule, regulation, or order, including but not limited to any direction by the U.S. President under Section 706(c) of the Communications Act of 1934, as amended, 47 U.S.C. §606(c).

5. Based on the current launch plans for the satellite, the Government of Canada will register the ANIK-F1R spacecraft (including the LM-RPS2 payload) with the Secretary-General of the United Nations, pursuant to the 1976 U.N. Convention on Registration of Objects Launched into Outer Space.

6. Industry Canada will condition its authorization of the ANIK-F1R satellite to require Telesat Canada to maintain, barring catastrophic failure of satellite components, the capability to de-orbit the ANIK-F1R spacecraft consistent with ITU Recommendation S.1003-1, Environmental Protection of the Geostationary-Satellite Orbit.

The informal understandings set forth in this letter concerning operation of the ANIK-F1R satellite do not constitute a concurrence by the FCC or the United States Administration with any Canadian filings with the ITU Radiocommunication Bureau. Further, it is my understanding that the FCC and Industry Canada will, separately, and as part of the agreement-seeking process applicable under the ITU Radio Regulations, work in good faith to complete that process, insofar as necessary, in connection with the operation of the ANIK-F1R satellite.

The FCC has not presently issued any of the authorizations that would be necessary to allow Lockheed Martin to commence operations of the LM-RPS2 payload at the 107.3° W.L. orbital location or to test the LM-RPS2 payload at the 118.7° W.L. orbital location. The FCC has received an application from Lockheed Martin requesting authority to operate the LM-RPS2 payload at the 107.3° W.L. orbital location, and an application for special temporary authority to test the LM-RPS2 payload at the 118.7° W.L. orbital location. These applications are pending and will require separate action by the FCC. This exchange of letters does not constitute approval of these applications.

Lastly, all notices, inquiries, and correspondences from Industry Canada concerning these matters should be directed to the Acting Chief, Satellite Division, International Bureau (phone number 202.418.0719) (e-mail Cassandra.Thomas@fcc.gov, with a copy to Steven.Spaeth@fcc.gov), on the part of the FCC. The FCC will forward all notices, inquiries, and correspondences concerning these matters to the Director, Space and International Regulatory Activities (phone number 613.998.3819) (e-mail beaumier.chantal@ic.gc.ca), on the part of Industry Canada. Please let us know if this address subsequently changes.

If the foregoing corresponds to your understanding of the informal arrangements between our two agencies concerning the various issues involved in Lockheed Martin's proposed operation of the LM-RPS2 payload on board Telesat's ANIK-F1R satellite at the 107.3° W.L. orbital location, please confirm by return letter. Thank you.

Sincerely,

Cassandra C. Thomas

Cassandra C. Thomas
Acting Chief, Satellite Division
International Bureau

cc: Ms. Jennifer Warren
Senior Director, Trade & Regulatory Affairs
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Industry Canada Industrie Canada

300 Slater Street
Ottawa, ON K1A 0C8

Our File: 46215-1 (38285 RH)

SEP - 7 2005

Ms. Cassandra C. Thomas
Acting Chief, Satellite Division
International Bureau
Federal Communications Commission
Washington, D.C. 20554

Dear Ms. Thomas:

Thank you for your letter of September 6, 2005 setting out our informal understandings concerning the proposed operations of Telesat Canada's ANIK F1R satellite and the various issues involved in Lockheed Martin's proposed operation of the Radionavigation Satellite Service payload (referred to as the LM-RPS2 payload).

I am pleased to provide my confirmation of these understandings.

I want to express my appreciation for the support your administration is giving to this kind of commercial arrangement to facilitate the delivery of important and valuable satellite services in our respective countries.

Yours sincerely,

C. Beaumier

Chantal Beaumier
Director, Space and International
Regulatory Activities

Canada