

PUBLIC VERSION

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Director, Regulatory Affairs

November 30, 2007

VIA HAND DELIVERY

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

FILED/ACCEPTED

DEC - 3 2007

Federal Communications Commission
Office of the Secretary

Re: Additional Information to Update the Record
File No. SAT-MOD-20060306-00024
Call Sign: S2357

Dear Ms. Dortch,

Skynet Satellite Corporation, a subsidiary of Telesat (collectively "Telesat"),¹ submits the following update on the status of the Telstar 11 and Telstar 11N satellites to assist the Commission in its decision to approve the above-referenced application seeking to modify the continuity of service condition of the Telstar 11N authorization. This letter begins with a chronological presentation of the satellite history, which underscores the significance of the updates provided for the Telstar 11 and Telstar 11N satellites. The letter concludes with a demonstration that grant of the modification request would serve the public interest. In particular, grant will not harm any customers and will provide the best opportunity for the public to benefit from deployment of a new satellite at 37.55° W.L. Grant is also appropriate in this unique situation where Telesat has timely satisfied the milestones imposed by the Commission for the Telstar 11N replacement satellite, which specify a launch date that exceeded the design life of the satellite being replaced.

Chronological History of Telstar 11 and Telstar 11N

On June 22, 1990, the Commission granted Orion authority to launch and operate Orion 1 (now known as Telstar 11). The satellite was launched in November 1994 and

¹ On October 31, 2007, Telesat acquired the assets of Loral Skynet Corporation. Upon consummation of the transaction, the authorizations held by Loral Skynet Corporation were transferred to Skynet Satellite Corporation. For convenience, this letter refers consistently to Telesat rather than Loral Skynet Corporation or Skynet Satellite Corporation.

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commenced commercial operations in January 1995. The satellite had a planned mission life of 10.5 years. As a forward looking view, if the satellite continued to function normally for only 1 year beyond mission life, something that is not uncommon when a FSS satellite is launched successfully, the approximate EOL of the satellite would have occurred in the June/ July 2006 time frame.

Loral acquired Orion on March 20, 1998.

On May 8, 1998, Orion applied for authority to launch a replacement satellite (now known as Telstar 11N). The FCC granted this application on June 18, 2001. The authorization allowed construction of a satellite that utilized the same amount of Ku-band spectrum as the then current authorization allowed.

Recognizing the need to expand its business opportunities in the satellite coverage area, Telesat applied, on November 30, 2001, for authority to add 250 MHz of extended Ku-band spectrum to the satellite. The addition of this spectrum to the Telstar 11N satellite contemplated an increase of more than 50% in the physical size of the spacecraft. The Commission granted the modification on September 28, 2004, with a new milestone schedule for the Telstar 11 N spacecraft including a launch milestone of September 28, 2009 and a continuity of service condition.

Upon grant of the modification application, Telesat acted promptly to commission construction of the Telstar 11N satellite (with the larger bus approved by the modification application) and accelerated the construction schedule to achieve a launch date in the summer 2008 time frame, more than one year ahead of the in-service milestone date of September 28, 2009.

As part of normal payload management of the on-orbit Telstar 11 satellite, Telesat began a fuel assessment program in July 2003. This test is normally conducted late in a satellite's life when there are approximately two years of fuel life remaining because the accuracy of the measurements increases as the amount of fuel remaining decreases. The results of the assessment were finalized in March 2004. They indicated a discrepancy between the test results and the expected amount of fuel based on "accounting" records from all satellite maneuvers once the satellite was turned over by the satellite manufacturer. With a shortfall of 11.7 Kg in the amount of fuel remaining on the satellite, Telesat ceased performing North/ South station keeping maneuvers and commenced inclined orbit operations in June 2004, more than one year before it intended to do so, in order to maintain the satellite in orbit for a longer period of time to continue to provide service.²

² Operation in inclined orbit also helped to preserve priority under ITU Radio Regulation 11.49, which places a limit of 24 months on the length of time that a satellite orbit location can remain unoccupied before the authorizing nation's priority at that orbit location expires.

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On March 6, 2006, Telesat filed the pending Telstar 11N modification application for removal of the continuity of service condition.³ In the application, Telesat indicated that with the information it had at that time, the anticipated end of fuel life was in the Summer 2006. Telesat also described the efforts it had undertaken, first, to acquire a gap filler, and when that proved to be unsuccessful, to relocate its customers to other suitable capacity.

In September 2006, Telesat contracted with Lockheed Martin/Comsat and Astrium, the successor to Matra Marconi, the manufacturer of the satellite, to study and reevaluate all of the fuel data.⁴ The objective was to determine, with a higher degree of certainty, how much fuel was available for station keeping and safe deorbiting of the Telstar 11 satellite. The study, completed in December 2006, indicated that there was more fuel available than previously determined. However, because there was significant disparity between the results of the March 2004 and December 2006 independent analyses, further study was required to resolve the discrepancy. This analysis was completed in February 2007. The results led to a conclusion that, there was 3 Kg more fuel than originally anticipated.

In March 2007, in response to an inquiry from the Satellite Policy Branch, Telesat met with the Commission and explained what had been learned as a result of the fuel analyses. Telesat also filed a March 20, 2007 letter to update the record. This letter confirmed that Telesat was confident that sufficient fuel remained on the satellite to enable continued inclined orbit operation at least until the end of 2007 with sufficient fuel to deorbit the spacecraft to a safe altitude. Each day of delay beyond the end of 2007 increases the risk that the satellite may not be able to be deorbited to a safe altitude.

Update on Telstar 11

Since the March 2007 meeting, two incidents have occurred on the Telstar 11 satellite that give our operations personnel cause for concern:

- 1) on March 8, 2007, a momentum wheel failed and a back-up unit had to be turned on. The design of this satellite includes only two momentum wheels, an operating wheel and a back-up. The satellite is now being operated with the single momentum wheel.
- 2) a computer glitch, on July 25, 2007, required that an on-board processor had to be restarted.

³ File No. SAT-MOD-20060306-00024.

⁴ Prior to contracting with the satellite manufacturer, Telesat also conducted its own analysis and determined that sufficient fuel remained to continue operating Telstar 11 beyond Summer 2006.

The second incident, of itself, is not a serious concern because there is a backup processor and processors can be re-started. The concern stems from the fact that, for the previous 12 years the spacecraft had been operating, there were no failures and the two incidents have occurred within a span of less than 5 months. Should the remaining momentum wheel fail, Telesat has confirmed with Astrium, the manufacturer, that it would be unable to deorbit the satellite because insufficient fuel remains to recover the satellite from a spin and then deorbit to a safe graveyard altitude.

Update on Telstar 11N

Telstar 11N is under construction and nearly ready to commence thermal vacuum testing. Consistent with this advanced stage of construction, the Commission has determined that Telesat met its critical design review and commence physical construction milestones for Telstar 11N.⁵ In addition, the Commission recently approved Telesat's request to operate Telstar 11N with increased transponder capacity and expanded geographical coverage.⁶

As evidenced by the attached confidential declaration, Telesat already has made significant expenditures to construct and launch Telstar 11N. Further, if the construction contract were terminated prior to completion of the satellite, Telesat would have to pay additional termination charges.

As noted in the March 20, 2007 letter, there was a Sea Launch failure for a New Skies Satellites, N.V. satellite on January 30, 2007. This failure delayed both Sea Launch and Land Launch activities and, in March 2007, Telesat could not state definitively when Telstar 11N would be launched. Telesat now estimates, however, that the Telstar 11N launch window has slipped to the November 2008 to January 2009 timeframe due to this launch failure delay.

Public Interest

Modification of the continuity of service condition in this case would serve the public interest for the following reasons:

Circumstances Outside Telesat's Control. The anticipated one year gap in service is due in part to two circumstances outside Telesat's control. The first is the consumption of excessive fuel during launch of the Telstar 11 satellite, which shortened its commercial life by about one to two years. While still available for service, Telstar 11 has experienced technical anomalies and is in inclined orbit, which limits its utility to customers with Ku-band earth stations with tracking capabilities. The second is the

⁵ See *Policy Branch Information Actions Taken*, File No. SAT-MOD-20060821-00091, Rept. No. SAT-00476, DA No. 07-4230, Public Notice (Oct. 12, 2007) (Loral SkyNet Corp. met both the CDR and Commencement of Physical Construction milestones for the Telstar 11R).

⁶ File No. SAT-MOD-20060821-00091, Call Sign S2357 (Sept. 28, 2007) (stamp grant with conditions from Andrea Kelly, FCC to Loral SkyNet Corp. re the Telstar 11R move to the 37.55° W.L. orbital slot).

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anticipated delay in launch of Telstar 11N due to the launch manufacturer's investigation of the January 2007 Sea Launch failure, which delayed the launch by approximately six months.

Efficient Use of Orbital Resources. Any remaining gap in service is related to the addition of extended Ku-band frequencies. Given that the C-band capacity at 37.45° W.L. is licensed to another satellite operator, Telesat sought to maximize its use of orbital resources by constructing a single satellite with both Ku-band and extended Ku-band payloads. By including authority to operate Telstar 11N in the extended Ku-band frequencies, the FCC implicitly agreed that doing so would yield operational and cost efficiencies that are in the public interest. It also implicitly accepted the potential risk of additional satellite anomalies or failure as the Telstar 11 satellite continued to operate beyond its design life. These same efficiencies support Telesat's requested brief gap in service at 37.55° W.L.

Underlying Purpose of Condition Has Been Satisfied. Telesat has acted in good faith to ensure that the underlying purpose of the continuity of service condition is satisfied. In this case, Telesat cared for all of its customers at 37.55° WL that required service from a satellite not in inclined orbit by making other satellite capacity available and assisting with re-pointing costs or allowing early termination of customer contracts. In an effort to mitigate the impact of these migrations on its customers, Telesat managed customer transitions to the alternate capacity to minimize disruptions to their service. In addition, Telesat absorbed some of the costs associated with repointing the customers' networks. A confidential summary of the costs and the affected customers is included as an attachment to this letter.

No Spectrum Warehousing. To the extent that the continuity of service condition also protects against spectrum warehousing, modification poses no harm. In this case, Telesat is subject to milestones and, as a result of the addition of extended Ku-band capacity, a bond. Telesat has met three of its four milestones and will launch Telstar 11 N in advance of the remaining milestone date. Satisfaction of these milestones evidences Telesat's intent to proceed in a timely manner notwithstanding the short vacancy at 37.55° W.L..⁷ In addition, the approaching launch of Telstar 11N next year ensures service to the public in the near term and presents the most expeditious option for the public to obtain high-quality Ku-band service at this orbital location.⁸ Finally, the bond,

⁷ In a similar case, the FCC permitted Hughes to leave an orbital location vacant pending launch of a replacement satellite because Hughes had "committed to implementing its satellite as soon as possible and [was] not holding the location to afford itself additional time to decide whether to proceed." *Application of Hughes Communications Galaxy, Inc. and Satellite Transponder Leasing Corporation for Replacement Satellites SBS-4 and for Modification of Construction Permit and License of Galaxy 6 Satellite*, Order and Authorization, 6 FCC Rcd 72, ¶¶ 9-10 (1991).

⁸ See, e.g., *United States Satellite Broadcasting Co., Inc., Transferor and DIRECTV Enterprises, Inc., Transferee, Application For Consent to Transfer of Control of the USSB II, Inc. Authorization to Operate a Direct Broadcast Satellite System Using Five Channels at the 101° W.L. Orbital Location; Authorization to Construct, Launch, and Operate a Direct Broadcast Satellite System Using Three Channels at the 101°*

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in this case, serves the same purpose as, and thus may substitute for, the continuity of service condition. Typically, the FCC does not impose a bond on replacement satellites subject to a continuity of service condition.⁹

Protection of the Orbital Arc. The public interest in protecting the orbital arc further supports modification of the continuity of service condition in this case. Telstar 11 is currently operating using its back-up momentum wheel. Should that wheel unexpectedly fail, Telstar 11 could not be de-orbited to a safe altitude. Telesat takes seriously its obligation to be a good space neighbor and is evaluating whether to discontinue offering service from Telstar 11 and to deorbit now. Modification of the continuity of service condition would mitigate any negative commercial consequence of a decision to de-orbit Telesat 11 prior to the launch of Telstar 11N.

Consistent with Replacement Policy. Modification of the continuity of service condition in this case would not undermine the Commission's replacement policy. First, even assuming Telstar 11 is de-orbited immediately, there will be just a short period of time (approximately one year) in which the 37.55° WL orbital location will not have an in-orbit Ku-band satellite. Second, grant is unlikely to yield similar requests by other operators. Other satellite operators with larger fleets enjoy the flexibility of being able to deploy "gap-filler" satellites when circumstances otherwise prevent continuity of service between existing and replacement satellites and thus do not require modification of a continuity of service condition.¹⁰ Telesat, on the other hand, is a far smaller operator even after the merger with Loral, and does not have an available in-orbit satellite to bridge the gap in service at 37.55° WL. Also, Telesat has not been able to lease or procure another operator's satellite to be moved to this orbit location to maintain the continuity of service in these frequency bands for this brief period of time. This places Telesat in the unique position of seeking a modification of the continuity of service condition.

W.L. Orbital Location; and the Related Earth Registration (Call Sign E930437); United States Satellite Broadcasting Co., Inc., Application for Additional Time to Construct and Launch a Direct Broadcast Satellite at the 101° W.L. Orbital Location, Order and Authorization, 14 FCC Rcd 4585, 4596 (1999) (granting an extension of time to launch a DBS satellite because such an extension would expedite service to U.S. consumers and finding it "doubtful that the Commission could adopt any alternative plan... that would result in service to consumers any sooner"); Lockheed Martin Corporation Application To Launch and Operate a Geostationary Orbit Space Station in the Radionavigation Satellite Service at 133° W.L., Order and Authorization, 20 FCC Rcd 11023 (2005) (granting authority to operate a Radionavigation Satellite Service where grant expedite service to the public and provide effective use of the limited spectrum resource).

⁹ 47 C.F.R. § 25.165(a) and (e).

¹⁰ See, e.g., *DIRECTV Enterprises*, 20 FCC Rcd 15778 (Int'l Bur. Oct. 05, 2005) ("These authorizations conclude a series of satellite moves that will allow DIRECTV to maintain continuity of service to its customers from the 109.8° W.L. orbital location."); *SES Americom, Inc., Request for Special Temporary Authority to Operate Satcom C-1 at 37.5° W.L.*, 20 FCC Rcd 1863 (January 28, 2005) (allowing SES to relocate Satcom C-1 to be used as a gap-filler satellite to satisfy the continuity of service condition on Columbia's authorization).


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Applying for a New License Would Not Serve the Public Interest. Applying for a new Ku-band authorization under the Commission's first-come, first-served policy would not serve the public interest. The regulatory uncertainty of being first in line to obtain a new Ku-band authorization following the Commission's pronouncement that those frequencies were available for reassignment would jeopardize the millions of dollars already expended toward construction of Telstar 11N. Even if Telesat successfully filed first, further funding and construction of the satellite would likely be put on hold pending grant. The end result would be a delay in the anticipated launch of Telstar 11N, which would deny customers timely access to Ku-band capacity. It could also result in forfeiture of the current bond amount of \$750,000. Such result would not serve the public interest because, if the continuity of service condition is modified, the satellite will be launched in advance of the required milestone date.

Conclusion

For the reasons discussed above, Telesat respectfully requests grant of its pending application for modification of the continuity of service condition on the Telstar 11N satellite.

Sincerely,


George F. Wazeter
Director, Regulatory Affairs

cc (via email): Helen Domenici, Roderick Porter, Gardner Foster, Robert Nelson,
Cassandra Thomas, and Andrea Kelly