Before the

FEDERAL COMMUNICATIONS COMMISSION

Washington, D.C. 20554

In the Matter of	)	
	)	
EchoStar Satellite L.L.C.	)	File No. SAT-LOA-20030609-00113
	)	
Application to Construct, Launch &	)	
Operate a DBS Satellite ("DBS")	)	
At the 86.5° W.L. Orbital Location	)	

OPPOSITION OF TELESAT CANADA

Telesat Canada ("Telesat") wishes to provide the Federal Communications Commission ("FCC" or "Commission") with the following comments on the above referenced EchoStar Satellite L.L.C. ("EchoStar") application for authority to construct, launch and operate a Direct Broadcast Satellite ("DBS") in the 12.2-12.7 GHz and 17.3 - 17.8 GHz frequency bands at the 86.5° W.L. orbital location. As detailed further below, EchoStar's planned satellite would cause unacceptable interference to Telesat's satellites as proposed.

Telesat is a Canadian-licensed satellite operator and is well known to the Commission, having had a number of its Fixed-Satellite Service ("FSS") satellites placed on the FCC's Permitted Space Station List[1] and another recent application pending.[2] The FCC also recently authorized a U.S. service provider to re-locate a backup in-orbit DBS satellite (DIRECTV 3, subsequently renamed Nimiq 3) to a Canadian licensed position to provide critical backup and support for Telesat's Nimiq 1 and 2 satellites at 91° and 82°

[1] *Telesat Canada: Request for Declaratory Ruling or Petition for Waiver on Earth Stations' Use of Anik E1 and Anik E2 Satellite Capacity to Provide Basic Telecommunications Service in the United States*, Order, 15 FCC Rcd 3649, 3653 (Int'l Bur. 1999) ("Anik E1 and E2 Order"); *Telesat Canada: Petition for Declaratory Ruling For Inclusion of Anik F1 on the Permitted Space Station List*, Order, 15 FCC Rcd 24828, 24831 (Int'l Bur. 2002) ("Anik F1 Order"); *Telesat Canada: Petition for Declaratory Ruling for Inclusion of ANIK F2 on the Permitted Space Station List*, Order, DA 02-3490 (Int'l Bur. rel. Dec. 18, 2002) ("Anik F2 Order"). In the Anik F2 Order the Commission also granted Telesat authority to offer two-way broadband services at Ka-band in the U.S. market.

W.L.[3] These Nimiq satellites currently provide DBS service to the Canadian direct-to-home ("DTH") service provider Bell ExpressVu and its more than 1.5 million subscribers. The 86.5° W.L. orbital position which EchoStar seeks permission to use in this proceeding falls exactly midway between these two Canadian positions. With only 4.5 degrees of separation from the 82° and 91° W.L. positions, operation of a DBS satellite at 86.5° W.L. has the potential to seriously disrupt Telesat's and Bell ExpressVu's existing Nimiq operations. Telesat therefore has a specific, direct interest in the Commission's deliberations on this application.

DBS Operation At 86.5° W.L. Would Be Disruptive To Existing DBS Operations at 82° and 91° W.L.

As noted above, Telesat operates Nimiq 1 (and the leased Nimiq 3 satellite) at the 91° W.L. orbital position, and Nimiq 2 at the 82° W.L. orbital position, providing DBS service to over 1.5 million households throughout Canada at a satellite and ground network infrastructure cost now well in excess of a billion dollars. Given that the vast majority of the Canadian population resides within 100 km of the border between Canada and the U.S., much of the Canadian DTH service is taken by subscribers living in close proximity to the border, and indeed the densely populated Southern Ontario region lies geographically south of most of the neighboring U.S. states of New York and Michigan. Furthermore, the satellites have been designed to provide coverage of the U.S. and have been approved by the Commission for the delivery of DTH services within the U.S.[4] The Nimiq networks have also been designed for optimal performance based on the orbital spacing and other technical criteria agreed to internationally as part of the Region 2 BSS Plan ("the Plan") with respect to the associated Plan entries, known as CAN-BSS2 and CAN-BSS1 for 91° W.L. and 82° W.L. respectively.

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[2] *Telesat Canada: Petition for Declaratory Ruling for Inclusion of Replacement Satellite Anik F1R on the Permitted Space Station List*, SAT-PPL-20050504-00094 (filed May 4, 2005).
[3] *DIRECTV: Request for Special Temporary Authority for the DIRECTV 3 Satellite*, Order, File No. SAT-STA-20030903-00300, DA 04-1761 (June 23, 2004).
[4] *Digital Broadband Applications Corp.*, Order, File No. SES-LIC-20020109-00023, Order, DA 03-1526 (May 7, 2003).

The introduction of a satellite midway between the two Plan entries with overlapping continental U.S. coverage footprints is the subject matter of the Commission's Public Notice proceeding regarding reduced orbital spacing between U.S. DBS satellites.[5] Telesat participated in that proceeding and, in its initial comments, explained that the Region 2 Plan allowed for the deployment of satellites in a known interference environment such that advanced modulation schemes and minimally sized antennas to meet customer needs could be achieved.[6] These networks are already in operation providing service to millions of customers. Telesat cautioned that the introduction of new satellites at reduced orbital spacing could upset this balance between available satellite resources, advanced modulation schemes and customer requirements in the context of a specific adjacent satellite interference environment, and thus seriously disrupt existing networks.

In its reply comments in that same proceeding Telesat emphasized the need to rely on the international coordination process for the proposed introduction of modifications to the BSS Plan, but again cautioned that existing DBS networks must remain protected – protection that may be extremely difficult to achieve in a reduced orbital spacing environment.[7] Telesat further noted that similar expressions of concern were articulated in the comments of several other parties to the same proceeding.

One of these parties was Bell ExpressVu, Telesat's service provider customer at the 82°/91° W.L. orbital positions, who noted that its network was built on the basis of the current Region 2 Plan and that the financial consequences of now permitting another DBS satellite with only 4.5 degrees separation "would undermine billions of dollars of satellite-based infrastructure."[8] Bell ExpressVu went on to state that such action "would be manifestly unfair to the satellite facilities and service providers who have relied on the ITU Region 2 Plan."[9] Telesat unreservedly agrees with this statement.

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[5] *International Bureau Seeks Comment on Proposals to Permit Reduced Orbital Spacing Between U.S. Direct Broadcast Satellites*, Report No. SPB-196, DA 03-3903 (Dec. 16, 2003).
[6] Comments of Telesat Canada on Report No. SPB-196, Section I (filed Jan. 23, 2004).
[7] Reply Comments of Telesat Canada on Report No. SPB-196, Section III (Feb. 13, 2004).
[8] Comments of Bell ExpressVu LP on Report No. SPB-196 (filed Jan. 23, 2004).
[9] *Ibid.*

Telesat notes that EchoStar itself has also recently acknowledged that 4.5 degree spacing raises technical concerns. Specifically, in its letter of March 31, 2005 to the FCC outlining topics discussed with Commission staff at a March 25, 2005 meeting, EchoStar indicated as follows:

> "EchoStar stated that, upon further study, 4.5° spacing between U.S. DBS satellites raises certain technical difficulties, especially for 'multiple feed' earth station dishes (*i.e.*, those designed to receive programming feeds from more than one satellite at a time)."[10]

Telesat echoes this concern. Indeed, this is exactly the situation with which Telesat and Bell ExpressVu would be faced – dual feed antennas facing the Nimiq 82° W.L. and 91° W.L. orbital positions, should an EchoStar satellite be located at 86.5° W.L., separated by 4.5 degrees from each. In this situation, due to the technology of the receive earth station antennas and the lack of ability to selectively discriminate an intermediate interferer, successful technical coordination, as required under the ITU *Radio Regulations*, seems extremely unlikely.

Finally Telesat notes that in the Technical Annex of its Application and its February 2004 Supplemental Technical Annex, EchoStar acknowledges that the MSPACE results indicate that the Canadian assignments at 81° and 91° W.L. would be affected by the operation of its proposed satellite, and that detailed technical discussions with Canada (and other Administrations) would be required in order to obtain their agreement.[11] In this regard, EchoStar further suggests that "through the proper design of the proposed satellite, including beam shaping and power roll-off, harmful interference to other nearby planned BSS systems can be avoided."[12] However, as Telesat pointed out at page 4 of its January 23, 2004 comments in the Report No. SPB-196 proceeding,

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[10] EchoStar letter to FCC Re: Report No. SPB-196 – Reduced Spacing Between U.S. DBS Satellites (dated Mar. 31, 2005).

[11] See, for example, Application of EchoStar Satellite, L.L.C. to Construct, Launch and Operate a DBS Satellite ("DBS") at the 86.5° W.L. Orbital Location, File No. SAT-LOA-20030609-00113, Technical Annex at page 5 and Annex 1 to Supplemental Technical Annex at page A2-2.

[12] Application of EchoStar Satellite, L.L.C. to Construct, Launch and Operate a DBS Satellite ("DBS") at the 86.5° W.L. Orbital Location, File No. SAT-LOA-20030609-00113, page 5.

techniques such as beam shaping and power roll-off cannot be used in co-coverage coordination situations as is the case here. Indeed, to ensure adequate protection for the existing Canadian DBS operations at 82° and 91° W.L., very substantial reductions of power levels on the proposed EchoStar satellite would appear to be the only way that the MSPACE triggers could be removed.

Conclusion

For all of the above reasons, Telesat is of the view that the Commission should not grant the EchoStar application for use of the 86.5° W.L. position at this time. The operation of a DBS satellite at this location only 4.5 degrees away from Telesat's existing Nimiq satellite operations has the potential to seriously disrupt those networks, to the detriment of Telesat, Bell ExpressVu and the millions of Canadian DTH customers now being served. Moreover, this disruption would be completely unjustified as these billion dollar networks have been planned and deployed based on technical criteria and orbital spacings agreed to internationally.

Respectfully submitted,
Telesat Canada

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May 16, 2005

CERTIFICATE OF SERVICE

I, Nancy Krieger, do hereby certify that a copy of the foregoing **Opposition of Telesat Canada** was served by first-class mail, postage prepaid on this 16th day of May 2005 to the following:

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