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LATHAM & WATKINS LLP

February 15, 2013

VIA ELECTRONIC FILING

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, SW
Washington, DC 20554

Re: *Ex Parte* Submission and Erratum; IBFS File Nos. SES-LIC-20120427-00404; SES-STA-20120815-00751, Call Sign E120075

Dear Ms. Dortch:

ViaSat, Inc. ("ViaSat") submits this *ex parte* to supplement the record in the above-captioned application proceedings. Enclosed are:

(i) A supplement to Telesat's coordination confirmation letter, further confirming that Telesat has taken into account its existing coordination agreements in evaluating ViaSat's proposed operations, and that it will include those parameters in future coordinations; and

(ii) An erratum to two pages of the ViaSat Technical Response filed on January 24, 2013, which corrects a math error that occurred in converting ViaSat's statements about 4.5 sigma and 4.9 sigma probability events into percentage equivalents. Notably, that correction has no material bearing on ViaSat's Technical Response or the statements in the Response of ViaSat.

If you have any questions regarding this submission, please do not hesitate to contact the undersigned.

Respectfully submitted,

/s/

John P. Janka
Elizabeth R. Park

Enclosures

cc: Robert Nelson
Andrea Kelly
Stephen Duall
William Bell
Howard Griboff
Paul Blais
Joseph Hill
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Kal Krautkramer
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David Keir, Counsel to Row 44, Inc.

Telesat
1601 Telesat Court
Ottawa, Ontario K1B 5P4

EN2013-002
12 February 2013

Federal Communications Commission
445 12th Street, SW
Washington, DC 0554

Attention: International Bureau

Re: Supplement to Engineering Certification of Telesat Regarding IBFS File No. SES-LIC-20120427-000404, SES-STA-20120815-00751

Telesat provides this update to its Engineering Certification dated December 18, 2012 regarding the coordination of ViaSat's proposed Ka band aeronautical earth stations, which will operate over the Telesat-licensed WildBlue-1 and Anik-F2 networks at 111.1° W.L.

Telesat has taken its existing coordination agreements for the WildBlue-1 and Anik-F2 networks into account in evaluating the parameters of ViaSat's proposed AES operations, and confirms that it will take those ViaSat parameters into account in its future coordination agreements with respect to WildBlue-1 and Anik-F2.

Respectfully submitted,

E. A. Neasmith, CD, M.Sc. (Eng), P.Eng
Manager ITU and Coordination
Office of CTO
Telesat

In addition, as the AES must be operating at specific locations in order for energy from the sidelobes and grating lobes to fall in the vicinity of a victim satellite, ViaSat developed a detailed geospatial model that considers among other things, the actual antenna pattern, the AES location, the target satellite, and the victim satellite. The output of this model was shared with satellite operators during discussions and depicts the areas in which an AES must operate to cause a given rise over thermal noise (ΔT/T) level. In many cases the aircraft must be operating outside the service coverage area in order to produce a meaningful increase in noise. However, as that theoretically could occur only outside the coverage area of the service satellite, no potential for interference actually exists because the transmitter would be disabled in those instances.

Row 44's pointing error projections rely on incorrect statistical analyses.

ViaSat actively monitors both azimuth and elevation pointing errors and will inhibit transmissions when the declared pointing error limit is exceeded on either axis independently of the other. ViaSat has a long history of making antennas for dynamic antenna pointing applications, including mobile platforms. The antenna control unit ("ACU") that ViaSat will use in this case is based on the same technology used in ViaSat's existing Ku band mobile systems and will ensure compliance with the antenna pointing accuracy limits stated in ViaSat's application.

Row 44 presents what purports to be a formula to project the pointing error along the GSO. Row 44 uses this formula to produce the table on page 6 of its Technical Appendix and claims that the results in the table represent the 1-sigma or 3-sigma likelihood of the maximum pointing angle for the indicated skew angle. Row 44's application of the formula and presentation of the data in the table are wrong in two ways.

First, the joint probability of two 1-sigma or two 3-sigma events is not itself a 1-sigma or 3-sigma event.

The joint probability of two independent 3-sigma events is given as follows:

P(az = 3-sigma ∩ el = 3-sigma) = (1 – 99.73) x (1 – 99.73)

0.0027 x 0.0027 = 7.29 x 10^{-6} ≈ 4.5 sigma, or 7.3 x 10^{-4} ~~10^{-8}~~%

Thus the azimuth error and the elevation error both reach a 3-sigma value simultaneously only 0.~~0000~~00073% of the time – if they are independent events. However, they are not completely independent.

In the case of the Mantarray antenna, the azimuth and elevation errors are actually inversely correlated to a degree in that the worst case azimuth and elevation error each actually occur when the other axis is least likely to experience significant error. This inverse correlation is a function of the elevation angles at which the peak velocities for azimuth and elevation occur. Specifically, azimuth pointing errors have the greatest chance of occurring when the AES is pointing at high elevation angles (*e.g.*, near the equator), and elevation pointing errors have the greatest chance of occurring when the AES is pointing at low elevation angles (*e.g.*, operating at higher latitudes). This reduces the actual likelihood of a simultaneous dual axis 3-sigma event even more.

Second, while Row 44 includes the ± sign for the azimuth and elevation error in its table, Row 44 only includes the results for cases where both axes have the same error sign, *i.e.* both positive, or, both negative values. This characterization of the error scenario for the maximum pointing error across GSO as a 1 or 3-sigma event is wrong. In fact, because half of the time the azimuth or elevation error will have a negative sign, the probability of dual axis 3-sigma events along the GSO would more correctly be:

$(0.5 \times 0.0027) \times (0.5 \times 0.0027) = 1.28 \times 10^{-6} \approx 4.9$ sigma or $1.28 \times$ $\underline{10^{-4}}$ ~~10^{-8}~~%

That is, only 0.~~0000~~000128% of the time would both antenna axis experience simultaneous 3-sigma error events where the error direction is additive.

In any case, the pointing error performance of the Mantarray has been disclosed and coordinated with other potentially affected satellite networks.

Row 44 mischaracterizes ViaSat's antenna design and manufacturing process.

In describing alleged deficiencies in ViaSat's antenna construction, Row 44 makes incorrect assumptions about the Mantarray antenna's design and assembly. Row 44 claims that manufacturing tolerances will not be precise enough to produce horn spacings that are uniform or repeatable, and thus, the grating lobe pattern will vary among units. Row 44 also claims that the effects of aging and varying environmental conditions could change the antenna performance.

The Mantarray antenna design is composed of three parts: 1) a thin uniform fiber reinforced dielectric window or aperture closeout for environmental protection, 2) a single grid plate with a number of waveguide openings or apertures that is a multiple of the number of horns, and 3) a single horn plate with a number of individual waveguide openings or apertures. Items 2 and 3 control the grating lobe characteristics by careful layout and choice of the interleaving of horn and grid openings.

The grid plate and horn plate are precision milled from single pieces of aircraft grade (6061-T6) aluminum stock to very high tolerances in a temperature controlled environment. Finished parts are 100% dimensionally inspected using a state-of-the-art computer controlled coordinate measuring machine. Locating pin features are used to insure proper mating between the grid and horn plates and the two components are bonded into a single assembly in a temperature controlled environment using the precise machine locating features. Finally, each unit is 100% RF tested in a state-of-the-art antenna measurement facility during production prior to integration with the positioner, and no antenna will be deployed that does not meet its performance requirements regarding grating lobes.

These manufacturing and testing processes ensure the uniformity and repeatability of antenna construction. In addition, the performance of the Mantarray antenna is not expected to change