

MAR 17 2008

Federal Communications Commission
Bureau / Office

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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| In the matter of |) | |
| |) | |
| Application of RaySat, Inc. for Authority to |) | File No. SES-LIC-20060629-01083 |
| Operate 4,000 In-Motion Mobile Satellite |) | SES-LIC-20060629-02248 |
| Antennas in the 14.0-14.5 GHz and 11.7- |) | SES-LIC-20060629-02249 |
| 12.2 GHz Frequency Bands |) | SES-LIC-20060629-02250 |
| |) | SES-LIC-20060629-02251 |
| |) | SES-LIC-20060629-02252 |
| |) | |

To: The International Bureau

PETITION FOR RECONSIDERATION OR CLARIFICATION

ViaSat, Inc. (“ViaSat”) submits this Petition for Reconsideration or Clarification (“Petition”) of the *Raysat Authorization Order*,¹ in which the International Bureau granted Raysat, Inc. (“Raysat”) authority to operate four hundred mobile earth terminals (“METs”) to offer a Land Mobile-Satellite Service (“LMSS”) using fixed satellite service (“FSS”) Ku band frequencies on a secondary, non-interference basis.²

ViaSat requests that the Bureau modify the *Raysat Authorization Order* to clarify that the data logging requirement imposed therein encompasses all parameters specified in the existing requirement for earth stations on vessels (“ESVs”), including location, transmit frequency, channel bandwidth, and the satellite used.³ Additionally, ViaSat requests that the Bureau modify the *Order* to add a condition similar to the one the Commission has imposed in authorizing other

¹ *Application of Raysat, Inc. for Authority to Operate 4,000 In-Motion Mobile Satellite Antennas in the 14.0-14.5 GHz and 11.7-12.2 GHz Frequency Bands*, Order and Authorization, IBFS File No. SES-LIC-20060629-01083, DA 08-401 (Feb. 15, 2008) (“*Raysat Authorization Order*”).

² *Id.* at ¶ 1.

³ See 47 C.F.R. § 25.222(c)(1).

secondary mobile operations in spectrum allocated to the FSS on a primary basis. Specifically, the Bureau should require Raysat to file a report one year after commencing commercial operations that details system implementation and performance during the initial phase of Raysat's new commercial, land-mobile offering. Doing so is important because, as the Bureau has recognized, Raysat's system design has the potential for causing interference to other authorized users of the radio spectrum. Moreover, Raysat's novel antenna design and proposed operations are untested and may evolve over time, particularly in the early stages of commercial deployment.

I. BACKGROUND

In the *Raysat Authorization Order*, the Bureau granted Raysat blanket authority to operate up to four hundred technically identical METs that would incorporate a two-way phase combined, low-profile antenna to be mounted on vehicles, operated while in motion, and used to provide high-speed data communications.⁴ In granting the Application, the Bureau addressed several interference-related concerns identified by ViaSat in its initial pleadings.⁵ For instance, the Bureau addressed network management concerns by requiring Raysat to maintain six separate networks and to ensure that its METs do not switch from one hub station or satellite to another.⁶ Additionally, the Bureau denied Raysat's proposed use of a high data rate signal because Raysat failed to provide the requisite analysis regarding the operation of the emissions.⁷

⁴ *Id.*

⁵ See Comments of ViaSat, Inc. (Aug. 4, 2006); Response of ViaSat, Inc. (Aug. 29, 2006).

⁶ *Raysat Authorization Order* at ¶ 22.

⁷ *Id.* at ¶ 21.

The Bureau also agreed with ViaSat that Raysat should be required to maintain logs on MET operations in order to help identify and resolve any incidents of interference.⁸

ViaSat applauds the Commission's efforts to encourage innovative uses of Ku band FSS frequencies for mobile applications, while simultaneously protecting primary users of the Ku band from interference. As the Bureau has acknowledged in the *Raysat Authorization Order* and elsewhere, existing FSS users must be protected from potential interference from mobile systems.⁹ Thus, in the *Order* the Bureau found that Raysat should be subject to a data logging requirement, noting that such a requirement is "part of the rules governing analogous ESV operations."¹⁰ However, while the rule for ESVs requires logging of the transmitting terminal's location, transmit frequency, channel bandwidth and satellite used, the data logging condition in the *Raysat Authorization Order* requires only that the MET's location be logged.

Further, it is critical for the Bureau to monitor closely the commercial operation of new mobile technologies – particularly during the first year of commercial deployment – because network conditions and capabilities in the context of widespread deployment are likely to be very different than those in experimental testing operations. In furtherance of this objective, the Bureau has regularly imposed a reporting condition in granting authorizations for other secondary mobile FSS operations. Unfortunately, the Bureau, without any explanation, did not impose a similar condition here.

⁸ *Id.* at ¶ 35.

⁹ *See, e.g., id.* at ¶ 21 ("Raysat must operate its MSS Earth-to-space communications on a secondary basis in the 14.0-14.5 GHz band and must protect other services with allocations on a primary basis in this band and must coordinate with other services operating on a secondary basis.").

¹⁰ *Id.* at ¶ 35.

II. DISCUSSION

By this Petition, ViaSat requests that the Bureau reconsider the *Raysat Authorization Order*, and modify or clarify that order to (i) specify that the condition requiring data logging encompasses all of the parameters covered by the Section 25.222(c)(1) of the Commission's rules with respect to ESVs, and (ii) include a condition requiring Raysat to file a report with the Bureau one year after commencing commercial operations.

First, the Bureau should clarify that the data logging condition in the *Raysat Authorization Order* requires not only data on the location of each MET, but also data regarding transmit frequency, channel bandwidth and satellite used. In recognizing that Raysat's land mobile services have the same potential to cause interference as other mobile services, such as ESV service, the Bureau concluded that a data logging requirement was appropriate. In both the ESV and land mobile service contexts, data logging is intended to preserve a record of mobile terminal operations that can be used by the Commission and other affected FSS spectrum users to determine whether a particular mobile terminal was the source of interference. Location information alone is insufficient to make such a determination. Therefore, the Bureau should modify the data logging condition to add transmit frequency, channel bandwidth and satellite used to the parameters that must be included in Raysat's records.

Second, the Bureau should require Raysat to file a report with the Bureau one year after commencing commercial operations. Such a report should address installed equipment configurations, EIRP compliance, and compliance with assigned bandwidth/emission designators, and include a table of reported interference events. Adding such a condition would allow the Bureau and potentially affected users of the Ku band, such as ViaSat, to verify that Raysat's LMSS network actually complies with the Commission's rules when its METs are deployed and are operating on a widespread commercial basis.

The Bureau has regularly imposed a similar reporting condition in granting authority for other secondary mobile use of FSS spectrum. For example, in authorizing Boeing to operate aeronautical mobile terminals on a non-interference basis in FSS spectrum, the Bureau required Boeing to “submit a report . . . includ[ing] test results and a description of any design modifications or operational procedures necessary to ensure that” Boeing’s operations were consistent with a two-degree spacing environment, and addressing, among other things, antenna pointing issues.¹¹ The Bureau imposed a similar condition in granting ARINC’s aeronautical mobile application, explaining that the condition was necessary because the authorization was granted before the Commission had adopted service rules and because ARINC’s “uplink interference analysis is partly based on predictive assumptions that may prove inconsistent, to some degree, with conditions encountered in full-scale commercial operation.”¹² Further, the Bureau specifically found that “[d]ata obtained after ARINC has had an opportunity to expand commercial operation pursuant to this authorization . . . would be more useful than data on operation to date on the limited basis previously allowed.”¹³ The Bureau again imposed a similar condition on ViaSat’s aeronautical mobile authorization; twelve months after commencing commercial operation, ViaSat must file a report on its system’s performance.¹⁴ In each of these

¹¹ *The Boeing Company; Application for Blanket Authority to Operate Up to Eight Hundred Technically Identical Transmit and Receive Mobile Earth Stations Aboard Aircraft in the 14.0-14.5 GHz and 11.7-12.2 GHz Frequency Bands*, Order and Authorization, 16 FCC Rcd 22645, at ¶ 19 (2001).

¹² *ARINC Incorporated, Application for Blanket Authority for Operation of Up to One Thousand Technically Identical Ku-Band Transmit/Receive Airborne Mobile Stations Aboard Aircraft Operating in the United States and Adjacent Waters*, 20 FCC Rcd 7553, at ¶ 56 (2005).

¹³ *Id.*

¹⁴ *ViaSat, Inc., Application for Blanket Authority for Operation of 1,000 Technically Identical Ku-Band Aircraft Earth Stations in the United States and Over Territorial Waters*, DA 07-4674, at ¶ 28 (Nov. 20, 2007).

cases, the Bureau found that a reporting condition was necessary during an important developmental phase of a nascent mobile satellite service in the Ku band.

Because the circumstances with respect to Raysat's land mobile service closely parallel those of the aeronautical mobile service, a similar reporting condition is warranted for Raysat's authorization. As in the ARINC decision, the Bureau recognized in the *Raysat Authorization Order* that Raysat's mobile operations have the potential to cause interference in some instances and that previously authorized experimental operations are insufficient to ascertain the scope of possible interference resulting from wide deployment in commercial operations.¹⁵ As with the aeronautical mobile service, the Commission is considering, but has not yet adopted, service rules for land-based METs in Ku band FSS frequencies.¹⁶ Furthermore, there is a complete absence of operational data on the impact of the wide commercial deployment of Raysat's novel antenna and system design.

As it has done with similarly-situated licensees, the Bureau should require Raysat to provide the requisite operational data by requiring Raysat to file, one year after commencing commercial operation, a report on its system's performance during that time period. Doing so would allow both the Bureau and other potentially affected users of the Ku band to evaluate the impact of Raysat's system during the initial phase of commercial service. A one-time reporting requirement would not impose any undue burden on Raysat, but rather would help ensure that Raysat's initial commercial operations are consistent with its license and the Commission's rules, and do not cause interference to other authorized users of the spectrum.

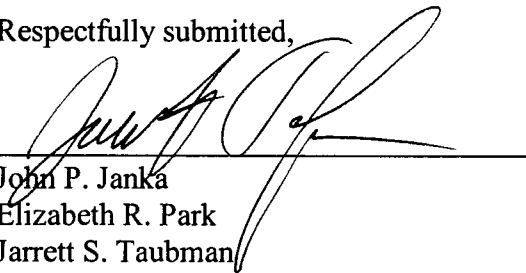
¹⁵ *Raysat Authorization Order* at ¶ 37.

¹⁶ *See Amendment of Parts 2 and 25 of the Commission's Rules to Allocate Spectrum and Adopt Service Rules and Procedures to Govern the Use of Vehicle-Mounted Earth Stations in Certain Frequency Bands Allocated to the Fixed-Satellite Service*, Notice of Proposed Rulemaking, IB Docket No. 07-101, FCC 07-86 (May 9, 2007).

* * * * *

For the foregoing reasons, ViaSat respectfully requests that the Bureau modify the *Raysat Authorization Order* to clarify that the data logging requirement includes records of the transmit frequency, channel bandwidth and satellite used and to add a condition requiring Raysat to file a report with the Bureau one year after commencing commercial operations.

Respectfully submitted,



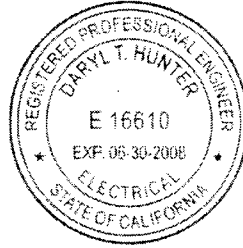
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March 17, 2008

ENGINEERING INFORMATION CERTIFICATION

I hereby certify that I am the technically qualified person responsible for reviewing the engineering information contained in the foregoing submission, that I am familiar with Part 25 of the Commission's rules, that I have either prepared or reviewed the engineering information submitted in this pleading, and that it is complete and accurate to the best of my knowledge and belief.



Daryl T. Hunter

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Dated: March 17, 2008

CERTIFICATE OF SERVICE

I, Jarrett S. Taubman, hereby certify that on this 17th day of March, 2008, served a true copy of the foregoing Comments of ViaSat, Inc. by first class mail, postage pre-paid upon the following:

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