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January 22, 2009

Ms. Helen Domenici
Chief, International Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: *Ex Parte Presentation*

Call Sign E080100: Applications of Row 44, Inc. for

Authority to Operate up to 1,000 Technically-Identical Aeronautical-Mobile Satellite Service Transmit/Receive Earth Stations Aboard Commercial and Private Aircraft, FCC File Nos. SES-LIC-20080508-00570; SES-AMD-20080619-00826; SES-AMD-20080819-01074; SES-AMD-20080829-01117; SES-AMD-20090115-00041;

Special Temporary Authority, FCC File No. SES-STA-20080711-00928.

Dear Ms. Domenici:

On behalf of ViaSat, Inc. ("ViaSat"), we are writing to (i) emphasize the important policy and technical issues presented by the above-referenced applications of Row 44, Inc. ("Row 44") to provide aeronautical mobile satellite service ("AMSS") over fixed satellite service ("FSS") spacecraft, and (ii) urge the Commission not to act on these applications until Row 44 has demonstrated compliance with the same regulatory requirements to which similarly situated companies have been held.

As detailed below, all commenters in this proceeding, including satellite operators, agree that more technical information is needed in order to verify Row 44's performance claims. Ground-based testing of the Row 44 antenna system would provide a mechanism for resolving the contested issues in this proceeding. Significantly, such testing would offer a way to obtain critical data *before* authorizing Row 44 to operate its antenna system on moving aircraft.

A. Background.

Row 44's applications to provide AMSS in FSS bands seek to take advantage of the Commission's policy of considering flexible uses of radio spectrum. In particular, the Commission has facilitated AMSS use of FSS spectrum on a secondary, non-interference basis by authorizing operations on a case-by-case basis, and has a rulemaking pending to establish

appropriate service rules for AMSS. ViaSat applauds those efforts and supports the prompt conclusion of the AMSS rulemaking, which will provide the AMSS industry the regulatory certainty needed to realize the full potential of AMSS.

In the absence of service rules governing new mobile offerings in FSS bands, the Commission has been careful to ensure that such offerings do not disrupt the existing FSS industry, in which many billions of dollars have been invested. Thus, the Commission has consistently required proponents of secondary mobile uses of FSS spectrum (including AMSS) to demonstrate *in advance* that their proposed services are compatible with the two-degree spacing environment that has been a cornerstone of the Commission's regulatory framework for over twenty years.

In this respect, ViaSat and other proponents of mobile services have invested considerable sums to design networks that satisfy the Commission's rules, ensure non-interfering operations, and still enable the provision of new and innovative broadband services. Industry participants have taken these steps even though it would have been considerably less expensive to move forward without complying with such technical constraints, and without performing rigorous pre-operational testing to generate data sufficient to demonstrate two-degree compatibility. In contrast, Row 44 has not followed this path.

B. Row 44 Still Has Not Demonstrated the Requisite Antenna Pointing Accuracy.

At least four companies – ViaSat, LiveTV, KVH, and ARINC – have expressed concerns about Row 44's failure to demonstrate up front that its proposed system would be two-degree compatible under the dynamics of flight. Row 44's system is of particular concern because Row 44 proposes to operate with a high-power-density wave form, and the AeroSat antenna that Row 44 wishes to use does not meet the Commission's antenna mask in the elevation plane. As a result, when used in flight, the elevation pattern of that antenna can be expected to emit levels of energy that exceed the Commission's off-axis power density mask toward the GSO arc. Critically, the technical issues raised by Row 44's applications are *not* inherent in the AeroSat antenna (or AMSS generally), but rather stem from Row 44's desire to transmit at high power-density levels.

In order to control interference, Row 44 proposes to rely on the "accuracy" of the AeroSat antenna, and a transmission shutoff mechanism that, in turn, relies upon Row 44's pointing mechanism performing as intended. However, Row 44 has not explained *how* that pointing mechanism actually would maintain the required pointing accuracy under the dynamics of flight. To the contrary, Row 44's explanations are incomplete and self-contradictory.

Both LiveTV and KVH, two mobile Ku-band satellite service providers with substantial expertise in antenna pointing system design and practice, have joined ViaSat in expressing serious doubts about the ability of the AeroSat antenna to meet Row 44's unsubstantiated (and unrealistic) pointing accuracy claims. Moreover, Row 44 has not addressed the detailed analyses that have been provided by ViaSat and KVH with respect to the inaccuracies and biases inherent in Row 44's antenna pointing mechanism – which in and of themselves would result in more than 0.2 degrees of pointing inaccuracy. Furthermore, Row 44

has not explained how its system reasonably could be expected to perform better than Boeing's Connexion service, which claimed only a 0.75 degree peak pointing accuracy, using a far more sophisticated pointing system than Row 44.

C. Row 44 Still Has Not Rebutted ViaSat's Interference Analysis.

An even more fundamental issue is highlighted by ViaSat's adjacent interference analysis: Row 44's system would cause significant and harmful interference into adjacent operations that are FCC-compliant, even if Row 44 were able to determine that its antenna was mispointed, and even if Row 44 were able to shut off after 0.5 degrees of mispointing. Significantly, Row 44 has failed to refute or even discuss that interference analysis.

The Commission should not allow Row 44 to proceed without an advance demonstration that its system would maintain the requisite level of pointing accuracy and otherwise would operate on a non-interference basis. Other mobile services applicants have been required to provide this demonstration, and there is no reason to treat Row 44 differently than those applicants. Should the Commission nevertheless grant Row 44's applications, the Commission should reduce the potential for interference by requiring Row 44 to reduce its power-density levels to ensure compliance with the Commission's off-axis power density mask at all levels of mispointing.

D. Pre-Operational Testing Should Resolve the Open Technical Issues.

Significantly, there is a way to resolve the technical issues in this proceeding: the Commission could require that measured data about the performance of Row 44's proposed system be provided on the record, before making any decision. ViaSat is not alone in making this suggestion. Each of ViaSat, KVH, LiveTV, ARINC, Intelsat and SES Americom has indicated the need for more data about Row 44's system. ViaSat stands ready to work with Row 44 and the Commission to design one or more mutually-acceptable ground-based tests of the pointing capabilities of Row 44's system, and would make its facilities and other resources available for such tests. Row 44's existing STA to operate a single, ground-based terminal in New Hampshire potentially could be used to facilitate this testing.

ViaSat is aware that Row 44 recently amended its AMSS system application to provide supplemental letters from Intelsat and SES Americom. However, those letters are not a substitute for the technical data that Row 44 has failed to supply. In fact, both Intelsat and SES Americom indicate that additional technical data are needed to "verify performance" of the Row 44 system, and those operators do not consent to anything more than "interim" authority to allow data to be gathered.

In this respect, ViaSat emphasizes that operational data already collected on prior flights could be used to evaluate the capabilities of the Row 44 system. Row 44 should have such data in hand because it has been operating its system aboard flying aircraft. Row 44's refusal to supply that type of data suggests that its actual operations do not substantiate, and may even contradict, Row 44's claims about its compliance with the Commission's pointing accuracy and other technical requirements. Certainly, anecdotal data – including a recent public report

noting that Row 44's system lost its satellite link several times during turbulence – cast doubt upon those claims.

E. Coordination Letters Are Not a Substitute for a Clear Technical Showing.

Because Intelsat and SES Americom neither design nor build antenna systems, it is not clear what technical basis those satellite operators have for concluding that the Row 44 system should operate as Row 44 describes. If those operators have reviewed additional data supplied by Row 44, then that information should be provided on the record for the Commission and other parties to review. In any event, though, the operators' suggestion that, "under the conditions described by Row 44," the proposed system should function is merely a tautology. The conditions upon which those operators rely are the very matters at issue in this proceeding, such as (i) the ability of the Row 44 antenna system to comply with a 0.2 degree peak mispointing limit (an assumption negated by the record), and (ii) Row 44's assumption of "typical" flight conditions (a term that Row 44 has not defined and that is not meaningful in evaluating performance under turbulence and other flight conditions that are likely to cause mispointing and interference). Critically, those letters do nothing to rebut either ViaSat's interference analysis or the antenna pointing issues that ViaSat (and others) have raised, nor do those letters substantiate Row 44's unsupported claims.

In any event, the Commission may not rely solely on the unsubstantiated conclusions of a few satellite operators that are selling satellite capacity to Row 44, and thus have a direct economic interest in Row 44's service. It is not up to those operators to privately decide what constitutes compliance with Commission rules and policies. Rather, the Commission has an obligation to carefully review Row 44's applications to ensure that the proposed operations do not cause harmful interference into any other Commission licensee, and to ensure consistency with Commission rules and policies, particularly given that Row 44 seeks to provide service on a secondary and non-conforming basis. In short, the Commission *must* closely review the applications based on the information in the record, including the inconsistencies and deficiencies that ViaSat and others have identified.

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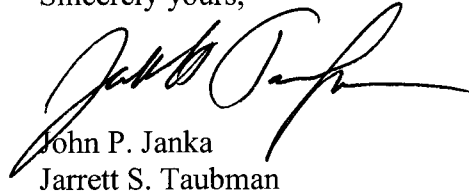
In evaluating Row 44's requests, the Commission should recognize that its decision may affect the entire AMSS industry. If Row 44 is allowed to operate before it demonstrates compliance with Commission rules and policies, including two-degree spacing compatibility, and then causes harmful interference, both users and investors may lose confidence in AMSS as a concept. Moreover, satellite operators may become reluctant to facilitate other applications of the AeroSat antenna, or other innovative technologies that may not squarely fit within the Commission's existing rules. For the sake of equipment manufacturers and other service providers, as well as the general public, the Commission should take the time to ensure that the operations proposed by Row 44 do not undermine the AMSS industry at this critical point in its development.

For these reasons, ViaSat urges the Commission to take no further action with respect to Row 44's AMSS applications unless and until Row 44's claims of compliance with

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Commission rules and policies are verified. As noted above, ViaSat stands ready to assist the Commission in gathering the test data that would allow such a determination to be made.

Sincerely yours,

A handwritten signature in black ink, appearing to be "John P. Janka" and "Jarrett S. Taubman" written together in a cursive style.

John P. Janka
Jarrett S. Taubman

Counsel for ViaSat, Inc.

cc: Rod Porter, International Bureau
Steve Spaeth, International Bureau
Bob Nelson, International Bureau
Fern Jarmulnek, International Bureau
Karl Kensinger, International Bureau
Andrea Kelly, International Bureau
Scott Kotler, International Bureau
Kathryn Medley, International Bureau
Sophie Arrington, International Bureau
Steve Duall, International Bureau
Trang Nguyen, International Bureau
Frank Peace, International Bureau
Jeanette Spriggs, International Bureau

David S. Keir, Counsel for Row 44, Inc.