

Exhibit E
Response to Question 43
Application Narrative

By this application, ViaSat, Inc. (“ViaSat”) seeks a radiofrequency license from the Commission for the Ka-band telemetry transmitter and command receiver on the ViaSat-1 satellite, as well as for the autotrack and downlink beacons. ViaSat currently is scheduled to launch in the fall of this year. After in-orbit testing, ViaSat-1 will be located at 115.1° W.L.

ViaSat-1 houses a Ka-band communications payload that will be operated under authority of the government of the Isle of Man and, ultimately, the United Kingdom. The Commission has authorized ViaSat to provide fixed satellite service (“FSS”) to the United States using this payload. *See* IBFS File Nos. SAT-LOI-20080107-00006; SAT-AMD-20080623-00131 (“First LOI Amendment”); SAT-AMD-20090213-00023 (“Second LOI Amendment”). *See also* Report No. SAT-00627 (Aug. 24, 2009) (“LOI Grant”).

In the First LOI Amendment, ViaSat submitted a Technical Annex containing detailed information about the ViaSat-1 satellite—covering, among other things, the technical parameters of the telemetry, tracking, and command (“TT&C”) elements of ViaSat-1 (including power levels and link budgets), as well as the physical characteristics and operations of the satellite (including with respect to orbital debris mitigation, safe flight profile, and post-mission disposal). *See* IBFS File No. SAT-AMD-20080623-00131, Technical Annex.¹ That Technical Annex also contains the information contemplated by Sections 25.140(b)(2) and 25.138 of the Commission’s rules, and demonstrates (among other things) that ViaSat-1 would be operated in a manner consistent with Commission rules and policies regarding two-degree spacing, interference abatement, spectrum sharing, and full frequency reuse. As evidenced by the LOI Grant, the Commission has found that Technical Annex, as well as the data contained in the Schedule S that accompanied the First LOI Amendment, and the beam patterns and characteristics provided in the Second LOI Amendment, sufficient to satisfy the Commission’s rules and policies.

ViaSat hereby incorporates by reference into this application the Technical Annex contained in the First LOI Amendment.² The Schedule S associated with this application contains other salient information, including the requisite beam patterns, characteristics, and interconnections with respect to TT&C operations,³ and data about the physical characteristics of

¹ That Technical Annex refers to the ViaSat-1 satellite by its former designation (“VIASAT-IOM”).

² With respect to Section A.15.3 of that Technical Annex, ViaSat notes that XM Radio Inc. (“XM Radio”) has since been authorized to operate XM-1, XM-2 and XM-4 at the nominal 15.25° W.L. location in formation such that their E/W station-keeping volumes are bounded by 115.15° W.L. and 115.35° W.L. *See* IBFS File No. SAT-MOD-20101216-00262. The operation of ViaSat-1 at 115.1° W.L. with an E/W station-keeping tolerance of ±0.05° eliminates the possibility of any station-keeping volume overlap with the XM Radio satellites.

³ The Schedule S associated with this application incorporates information about the characteristics of the ViaSat-1 ground network that is being deployed, as well as data from ViaSat’s satellite manufacturer about the actual beam characteristics of ViaSat-1.

the spacecraft.

Grant of the instant application would be consistent with the market access already granted with respect to ViaSat-1, and would ensure that oversight and control over the physical operation of that satellite are fully within the jurisdiction of the United States. In addition, such grant would facilitate the prompt provision of broadband service to millions of Americans that currently lack such service—particularly in rural portions of the country. Accordingly, ViaSat submits that grant of this application would serve the public interest, convenience, and necessity, and respectfully requests that the Commission grant this application on an expedited basis.

A. Technical Parameters

The TT&C elements of ViaSat-1 would operate in accordance with the technical parameters set forth in the following summary table, as further detailed in the Technical Annex submitted with the First LOI Amendment and incorporated by reference herein, and the Schedule S associated with this application:

Parameter	Transfer Orbit and Emergency	On-Station
Command/Ranging Frequencies and Polarizations	29,500.5 MHz ⁴ (LHCP/RHCP) 29,503 MHz (RHCP/LHCP)	29,500.5 MHz (LHCP/RHCP) 29,503 MHz (RHCP/LHCP)
Uplink Flux Density	-76 dBW/m ²	-115 dBW/m ²
Uplink Antenna Beam	Omni	Gateway (<i>i.e.</i> , “A-Type”) Spot
Telemetry/Ranging Frequencies and Polarizations	19,701 MHz (LHCP) 19,703 MHz (RHCP)	19,701 MHz (LHCP) 19,703 MHz (RHCP)
Downlink Antenna Beam	Omni	Gateway (<i>i.e.</i> , “A-Type”) Spot
Maximum Downlink EIRP	14 dBW	25 dBW

The Schedule S associated with this application also contains the parameters of the autotrack and downlink beacons referenced in Exhibit A.

Only ViaSat is currently authorized to conduct FSS operations in the United States in the portions of the Ka band identified above. Moreover, the TT&C elements proposed here would operate in a manner fully consistent with ViaSat’s use of the same portions of the Ka band in other spot beams on ViaSat-1 (as authorized in the LOI Grant), and, as such, have been self-coordinated. Therefore, this request is fully consistent with the procedures set forth by the Commission in the *Space Station Licensing Reform Order* regarding processing of GSO-like services.⁵

⁴ Specified frequencies are center frequencies, with an assigned bandwidth of 1 MHz.

⁵ See *Amendment of the Commission’s Space Station Licensing Rules and Policies*, First Report and Order, 18 FCC Rcd 10760, at ¶ 113 (2003) (“*Space Station Licensing Reform Order*”).

B. Schedule and Milestones (25.114(c)(12))

ViaSat-1 is subject to milestone requirements, and has posted a performance bond, in connection with the LOI Grant. Notably, the Commission has concluded that ViaSat has satisfied the first three milestones (*see* DA 10-1715), and the final milestone will be satisfied shortly after grant of the instant application when ViaSat-1 launches and commences operations. Moreover, this application does not involve the addition of any frequencies to ViaSat-1. The Ka band frequencies specified here are already included on that spacecraft, and will be utilized (for non-TT&C purposes) in other spot beams that form part of the communications payload that is the subject of the LOI Grant. Accordingly, there would be no need for the Commission to impose additional milestone obligations on ViaSat in connection with its grant of the instant application, or to require ViaSat to post a duplicative performance bond.⁶

C. ITU Cost Recovery

ViaSat unconditionally accepts the responsibility to pay any ITU cost recovery fees associated with the ITU filings that the Commission makes on ViaSat's behalf in connection with this application.

D. Waiver Pursuant to Section 304 of the Communications Act

In accordance with Section 304 of the Communications Act of 1934, as amended, 47 U.S.C. § 304, ViaSat hereby waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise.

E. Schedule S Limitations

In response to section S7 (n) of the Schedule S form, the receive system noise temperature is 204174 K for beams TCR and TCL (on-station telecommand) and 389045 K for beams BNR and BNL (autotrack beacon). The Schedule S software does not allow a receive system noise temperature of greater than approximately 32800 K to be entered into the form. Because the receive system noise temperatures for receive beams TCR, TCL, BNR, and BNL are greater than 32800 K, the Schedule S fields for the receive system noise temperatures of these beams have been left blank.

⁶ *See Telesat Canada*, Order, 22 FCC Rcd 588 (2007). To the extent necessary, and for these reasons, ViaSat requests a waiver of the milestone and performance bond requirements set forth in Section 25.164(a) of the Commission's rules. 47 C.F.R. § 25.164(a).