



May 28, 2019

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VIA IBFS

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

**Re: Intelsat License LLC Response to Public Notice Regarding Earth
Station and Satellite Usage of 3700-4200 MHz; DA 19-278**

Dear Ms. Dortch:

Intelsat License LLC ("Intelsat"), through counsel, hereby responds to the Public Notice issued by the Federal Communications Commission ("FCC" or "Commission") on April 11, 2019 requiring certain operators of fixed-satellite service ("FSS") earth stations and space stations to provide information regarding use of the 3700-4200 MHz band ("C-Band").¹ With respect to certain competitively sensitive information, Intelsat includes herewith a request for confidential treatment.

The information Intelsat is providing reflects 35 Intelsat satellites with C-Band coverage of any portion of the United States, including its territories. However, when assessing C-Band usage in the United States, the critical focal point is the North American arc (139° W.L. to 87° W.L.). Only satellites located within the North American arc can provide the broadcast and cable services upon which millions of Americans rely. Yet even within the North American arc, not all orbital locations are suitable for all applications. For example, cable distribution requires stringent 50-state coverage, which effectively further narrows the orbital locations—specifically, to 135° W.L. to 99° W.L.—within which satellites used for cable distribution² can be placed so as to maintain "look" angles capable of seeing New England/Maine and Alaska.

Orbital locations outside of the North American arc are not ideal for broadcast or cable use due to their limited coverage. Thus, existing broadcast and cable customers cannot simply be moved to a C-Band satellite outside of the North

¹ *Deadline for Submission of Information on Earth Station and Satellite Use of the 3.7-4.2 GHz Band*, Public Notice, GN Docket No. 18-122, DA 19-278 (Apr. 11, 2019) (the "Public Notice"). For clarity, the information submitted herein excludes transponders that utilize frequencies other than 3700-4200 MHz.

² All of the other orbital locations in the North American arc are also suitable for broadcast, occasional use, and data applications such as mobility.

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American arc in order to clear spectrum for use by terrestrial 5G operators. Moreover, orbital locations outside of the North American arc are already used by Intelsat for distribution of broadcast programming in other regions (*e.g.*, Latin America) or for data applications such as maritime services. Indeed, clearing C-Band frequencies in the United States indirectly impacts the loading of satellites that primarily serve other countries but that also need to land services in the United States, either for further distribution to consumers or for monitoring of services intended for non-U.S. consumers. The amount of spectrum cleared can therefore trigger significant clearing costs with respect to satellites in the international (*i.e.*, non-North American) arc.

In addition, when analyzing the transponder usage data provided herewith, the Commission should be cognizant that, once sold, it is up to the customer how much to utilize a transponder. Intelsat can neither dictate to the customer how much to use the transponder, nor re-sell the transponder to another customer (except where the transponder has been sold as a back-up transponder for services on other transponders).³ In this sense transponders are like rental cars with unlimited mileage—once behind the wheel, the customer decides how much, or how little, to drive. The rental car agency neither cares, nor can dictate, whether the customer drives the car 1,000 miles, or parks it in a parking lot. And for those cars parked in parking lots, the rental car agency cannot re-let the car to another customer.

To further assist the Commission in understanding the information provided, Intelsat provides the following explanatory notes:

- 1) The April 11 Public Notice requires satellite usage information from “[o]perators with existing FSS space station licenses with coverage of the United States or grants of United States market access in the 3.7-4.2 GHz band.”⁴ Intelsat has interpreted this to mean that the Commission is seeking the requested information only for C-Band beams that cover U.S. territory. Intelsat does not include in this response information for any satellite or beam that does not have coverage of the United States, or for any satellite or beam that utilizes frequencies other than C-Band.

³ In the limited case of designated back-up transponders, Intelsat can—and does—sell capacity to other customers on a preemptable basis.

⁴ *Public Notice* at 2.

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- 2) Information regarding transponders under contract reflects contracted capacity on May 1, 2016 and May 1, 2019.
- 3) The satellite usage data provided is based on measurements collected every thirty minutes during the month of March 2019. In limited cases, measurements are not available for a certain transponder or for a certain day of the week—most likely caused by errors in monitoring or due to maintenance or system upgrades that inadvertently stopped the data collection. Such cases are reflected with the entry “no data.”
- 4) As a result of the measurement period and the nature of certain services, not all of the data provide an accurate reflection of real-world usage. For example, VSAT networks typically have bursting signals with usage that varies greatly over short periods of time. Similarly, occasional use video traffic is likely not accurately reflected in these measurements because the customer may use all the bandwidth for a short period of time many times throughout the month, but such usage may occur outside of the collection windows and, as such, will not be reflected in the usage data. Occasional use transponders are noted as such. Intelsat is not able to identify accurately transponders used for VSAT networks with bursting access.
- 5) In some instances, the data for a given transponder may reflect a bandwidth usage number that is higher than the contracted bandwidth amount. There are numerous possible reasons for such an outcome. For example, certain customers have contracted for service on a Mbps basis (rather than on a MHz basis) or in power-limited transponders. As a result, Intelsat must allocate extra bandwidth to meet the customer-required throughput (Mbps). Bandwidth usage could also exceed contracted bandwidth where services have commenced or been expanded while contract negotiations are on-going.
- 6) In other cases, the data for a given transponder may reflect a bandwidth usage number that is lower than the contracted bandwidth amount. This could, of course, be the result of the customer electing not to use all of its contracted for MHz. It also, however, could be the result of the customer using the capacity on a Power Equivalent Bandwidth basis, which provides the customer with higher power in lesser bandwidth by using the power associated with additional capacity on the transponder. Additionally, this



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result could occur where the transponder has been contracted as a protection (or back-up) transponder. Protection transponders are noted as such.

- 7) Intelsat Epic^{NG} satellites (denoted by an “e” in their name) do not have a traditional dedicated transponder layout. Instead, the transponders are dynamic and the size (and name) of the transponders may change based on customer needs. Additionally, the transponders are not necessarily contiguous.
- 8) For satellites outside of the North American arc (139° W.L. to 87° W.L.), information regarding “the percentage (if any) only for customers outside of the United States” is imprecise because it is based in part on certain assumptions. Specifically, if the customer is a U.S. customer and technical records do not reflect otherwise, Intelsat assumes the service is 100% U.S. (This is true even for transponders used by U.S. mobility providers.) If the customer is non-U.S., Intelsat has attempted to take into consideration where the signal is being downlinked. As such, the answer for a transponder serving non-U.S. customers is based on Intelsat’s knowledge—which may not be complete—of whether the customer is downlinking solely outside of the United States, solely inside the United States, or both outside and inside the United States. Note, however, that Intelsat’s or its customer’s monitoring of transmissions is not considered. In other words, if Intelsat’s technical records indicate that a video customer’s transmission shows only distribution in Latin America, but Intelsat or its customer is monitoring the transponder via a downlink to the United States, the percentage usage outside of the United States is reflected as 100%.

Please contact the undersigned with any questions.

Respectfully Submitted,

/s/ Jennifer D. Hindin

Jennifer D. Hindin

Counsel for Intelsat License LLC

Attachments