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***By Electronic Filing***

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

**Re: SES and Intelsat Notice of Oral *Ex Parte*: Unlicensed Use of the 6 GHz Band,  
ET Docket No. 18-295 & GN Docket No. 17-183**

Dear Ms. Dortch:

Representatives of SES and Intelsat met with William Davenport, Chief of Staff and Senior Legal Advisor to Commissioner Starks, on June 20, 2019, to discuss the above-referenced proceeding. SES was represented by Noah Cherry, Ryan Henry, and the undersigned outside counsel to SES, and Intelsat was represented by Cynthia Grady. The discussion centered on the need to prevent harmful aggregate interference to C-band satellite operations, as discussed in the joint comments and reply comments SES and Intelsat filed in the proceeding.

SES and Intelsat noted that they operate the overwhelming majority of C-band satellites serving the U.S., which rely on spectrum in the 6 GHz band for uplinks that support critical communications services. The companies emphasized that these important licensed incumbent operations must be protected from harmful interference by imposing a cap on aggregate nationwide unlicensed device emissions. SES and Intelsat derived their proposed -142 dBW cap from an interference-to-noise ratio of -13.5 dB, well below the more restrictive level applied internationally for secondary services.

SES and Intelsat explained that C-band satellite receive antennas are designed to receive highly attenuated signals and must therefore be extremely sensitive, making them very vulnerable to interference. Moreover, emissions from all unlicensed devices within the satellite's broad coverage area<sup>1</sup> will contribute to the increased noise at the satellite receiver.

SES and Intelsat observed that Globalstar's experience in the U-NII-1 frequency band provides a concrete example of aggregate interference from unlicensed devices adversely affecting satellite reception. Within a few years after the Commission allowed outdoor devices and

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<sup>1</sup> Many C-band spacecraft are capable of covering the entire contiguous United States ("CONUS"). See, e.g., Comments of the Satellite Industry Association, GN Docket No. 17-183, filed Oct. 2, 2017 at 14 ("at least two dozen satellites with C-band payloads offer service that spans the entirety of the contiguous U.S.").

increased power levels in that band, Globalstar measured a substantial increase in the noise floor over the United States.

SES and Intelsat explained that adopting their proposed cap would allow the Commission to prevent similar harms from disrupting vital C-band satellite services without unnecessarily constraining unlicensed device deployment. Proponents of 6 GHz unlicensed operations have argued that aggregate interference will not create problems for satellite service continuity, but these claims are based on a number of unprovable assumptions about future unlicensed device deployment numbers, duty cycles, power levels, and other variables.

Imposing a cap on aggregate interference to satellite receivers makes it unnecessary to debate the accuracy of these forecasted parameters or to limit the way in which unlicensed devices can be deployed. The cap SES and Intelsat support would be triggered if and only if aggregate interference reaches levels that would harm satellite reception. If unlicensed use advocates' predictions prove correct, that will never occur, and the cap will have no effect on unlicensed device deployment. But in the event that increased noise from unlicensed deployment threatens to disrupt satellite service integrity, the Commission will have a mechanism in place to prevent such harmful interference.

SES and Intelsat argued that the automated frequency coordination ("AFC") framework proposed for use to prevent harmful interference to terrestrial fixed service links can readily be utilized to implement the interference cap needed to protect satellite operations. Specifically, the Commission should require that AFCs be able to monitor and limit aggregate interference from outdoor unlicensed devices to -142 dBW per channel. To protect C-band satellites with full-CONUS beams, the aggregate interference from unlicensed devices would need to be tracked on a nationwide basis, necessitating either a centralized AFC or interconnection if multiple AFCs are used.

Please address any questions regarding these matters to the undersigned.

Respectfully submitted,

*/s/ Karis A. Hastings*

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cc: William Davenport