



March 30, 2023

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
45 L Street NE
Washington, DC 20554

Re: Request for Special Temporary Authority for Galaxy 15; Call Sign: S2387

Dear Ms. Dortch:

Intelsat License LLC ("Intelsat") herein requests 30 days of Special Temporary Authority ("STA")¹ beginning April 10, 2023, to raise Galaxy 15 (S2387) from its current location at 108.9° W.L. to an altitude approximately 150 km above the geostationary arc, conduct additional testing at that altitude, and then to further raise the satellite to its planned final graveyard orbit, 266.9 km above the geostationary arc or higher, where it will be decommissioned. Intelsat anticipates that orbit raising to 150 km, testing, and subsequent deorbit of Galaxy 15 will take no more than 8 weeks. Testing at 150 km is expected to last for approximately 5-7 days.

As the Federal Communications Commission ("FCC" or "Commission") is aware, on August 10, 2022, Galaxy 15 experienced an anomaly, which was likely triggered by space weather. Due to this anomaly, Intelsat lost the telemetry and commanding links. Intelsat was able to regain commanding of the satellite via an alternative path on August 14, 2022. Due to an issue of unknown origin, subsequent commands were not conveyed to the satellite. On August 18, 2022, the satellite drifted outside of its authorized +/- 0.05° East/West station-keeping box at 133.0° W.L. and continued drifting until March 2023, pursuant to STA.² On March 10, 2023, Intelsat notified the FCC that it had regained control of Galaxy 15 and obtained special temporary authority to end the drift and operate at 108.9° W.L. to evaluate the functionality of the satellite and assess the satellite's disposition options.³

Intelsat seeks special temporary authority to raise Galaxy 15 from its temporary station-keeping box at 108.9° W.L. to 150 km above the geostationary arc for further testing. At 150 km above the geostationary arc, Intelsat plans to conduct additional testing on Galaxy 15 to determine, to the

¹ Intelsat has filed this STA request, an FCC Form 312, and the filing fee electronically via the International Bureau's Filing System.

² See, e.g., *Satellite Policy Branch Information; Actions Taken*, Report No. SAT- 01704, File No. SAT-STA-20230209-00030 (Feb. 24, 2023) (Public Notice). See also *Satellite Policy Branch Information; Actions Taken*, Report No. SAT-01606, File No. SAT-MOD-20210205-00016 (Jan. 28, 2022) (Public Notice).

³ See *Satellite Policy Branch Information; Actions Taken*, Report No. SAT-01709, File No. SAT-STA-20230310-00052 (Mar. 17, 2023) (Public Notice) ("*Galaxy 15 STA PN*").

extent possible, what caused the alternative path for backup tracking, telemetry, and control (“TT&C”) to malfunction.

Following completion of testing, Galaxy 15 will be further raised to its previously approved deorbit altitude of 266.9 km above the geostationary arc⁴ or higher based on available fuel. The satellite will be decommissioned in a manner compliant with the spacecraft’s previously approved post-mission disposal plan and existing waiver of fuel venting requirements under Sections 25.114(d)(14)(ii) and 25.283(c) of the Commission’s rules.⁵ As previously conditioned by the FCC, Intelsat also agrees, within 30 days of end-of-life maneuvers, to send a letter to the Chief, Satellite Division, International Bureau indicating the apogee and perigee of the Galaxy 15 disposal orbit.⁶

The frequencies to be utilized for orbit-raising are:

space-to-Earth	4189.000 MHz
	4199.875 MHz
Earth-to-space	6420.50 MHz

The frequencies to be utilized for testing are:

space-to-Earth	3800 MHz
	3940 MHz
Earth-to-space	6025 MHz
	6165 MHz

Intelsat will take all practicable steps to ensure safe operation of the spacecraft and avoid causing harmful interference. In the unlikely event that harmful interference occurs, Intelsat will take all necessary steps to eliminate the interference.

⁴ This altitude meets the minimum altitude required by the Inter-Agency Space Debris Coordination Committee (“IADC”) formula. See Inter-Agency Space Debris Coordination Committee, *IADC Space Debris Mitigation Guidelines* § 5.3.1 (Rev. 2 Mar. 2020). In calculating the disposal orbit, Intelsat has used simplifying assumptions as permitted under the Commission’s Orbital Debris Report and Order. *Mitigation of Orbital Debris*, Second Report and Order, 19 FCC Rcd 11567 (2004) (“2004 Debris Mitigation Order”). The effective area to mass ratio (Cr^*A/M) of the satellite is 0.029 m²/kg, resulting in a minimum perigee disposal altitude under the Inter-Agency Space Debris Coordination Committee formula of 266.9 kilometers above the geostationary arc.

⁵ See *Application of Intelsat License LLC to Modify Authorization for Galaxy 15*, Stamp Grant, IBFS File No. SAT-MOD-20210205-00016 (Jan. 26, 2022) (granting waiver of fuel venting requirements under Sections 25.114(d)(14)(ii) and 25.283(c) of the Commission’s rules); Intelsat License LLC, Amendment to Application to Modify Authorization for Galaxy 15, IBFS File No. SAT-MOD-20210205-00016, Legal Narrative, at 2-6 (filed Feb. 5, 2021) (discussing the post-mission disposal plan for Galaxy 15). See generally *Application of PanAmSat Licensee Corp., Application to Construct and Launch Galaxy I(H)*, IBFS File No. SAT-LOA-19991207-00119 (filed Dec. 7, 1999).

⁶ *Id.*

Intelsat Stop Buzzer Contact:

24x7 Intelsat Network Operations Center: +1 404-381-2900
Director, Network Operations Center (NOC): Angela Wheeler
Address: 2875 Fork Creek Church Road Ellenwood, GA 30294-1224 USA
Email: angela.wheeler@intelsat.com
Office: + 1 404-381-2820
Mobile: +1 202-437-1619

Grant of this STA is in the public interest. The proposed testing is an important step in the anomaly investigation and the data gathered should enable Intelsat engineers to better diagnose the viability of alternate path commanding. This will allow Intelsat to proactively identify, mitigate, and prevent similar malfunctions from occurring on other spacecraft in the future, thereby reducing the threat of disruption to customers. Notably, the testing will occur on separate frequencies and hardware than TT&C operations and thus pose no risk to commanding the satellite. Additionally, conducting testing of Galaxy 15 at 150 km above the geostationary arc minimizes orbital debris risk to other operational satellites.

For the reasons set forth herein, Intelsat respectfully requests that the Commission grant this STA request.

Sincerely,

/s/ Cynthia J. Grady
Cynthia J. Grady
Assistant General Counsel
Intelsat US LLC

cc: Merissa Velez
Jennifer Balatan