

**STATEMENT OF
COMMISSIONER GEOFFREY STARKS**

Re: *Streamlining Licensing Procedures for Small Satellites*, IB Docket 18-86

Less than two weeks ago, we celebrated the 50th anniversary of Apollo 11 and humanity's first trip to the moon. That mission capped the first Space Race, which began 12 years earlier with the Soviets' launch of the world's first artificial satellite, Sputnik. Today we are at the beginning of a new Space Race – only this time the race involves advanced launch capabilities, small satellites, and the possibility of innovative new services, including the provision of broadband to billions of people around the world. Unfortunately, while regulatory reform efforts are underway, many of our current satellite rules still date from the dawn of the space age. Today's order is a good start, but the FCC must continue to update its policies to encourage American leadership in this new golden age of space exploration.

American space companies are innovating in dramatic ways. Improvements in technology and the use of reusable launch vehicles have changed the nature of the launch industry. After years where the number of American launches barely cracked the mid-teens, last year we saw over 30 US launches, with the promise of far greater increases to come. While some of these launches involve traditional, large geostationary satellites in high orbits, an increasing number represent a wave of smaller next-generation satellites that will go into low orbits and cost only a fraction of their larger counterparts, using faster and smaller state-of-the-art processors.

These satellites will provide a wide-variety of services, ranging from national security missions, to position, navigation and timing, to weather and environmental sensing. But the area that I'm most excited about is the potential for these satellites to help address one of our toughest problems – improving rural America's access to broadband.

As industry continues to deploy the next generation of communications technologies in our urban centers, at least 21 million Americans currently do not have access to home broadband, a necessity in our modern world. This persistent digital divide has real-world consequences in terms of opportunities for employment, education and civic engagement, and is hardening into a state of internet inequality. We must address this problem before it gets worse.

Congress has charged those of us at the Federal Communications Commission with ensuring that all Americans have affordable access to quality communications services. But the most remote areas of the US represent a huge challenge. I have heard over and over from the industry that when only a few people live in a large geographic area, companies cannot make the business case to deploy fiber connections or high-speed wireless service. And while this agency and others continue to subsidize rural services to the tune of billions of dollars per year, the basic economics in the most remote areas of our country do not change.

It's certainly true that traditional geostationary satellite operators have and will continue to offer valuable services to these remote areas. But, as I explained last week in an op-ed in the Orlando Sentinel, this new golden age in space may provide a path forward on the issue of rural

internet inequality. A new generation of operators promise high-speed service via constellations of thousands of satellites in low-Earth orbit. These new providers promise widespread high-speed coverage while reducing latency to the tens of milliseconds – fast enough to support voice and other critical services. And because they don't have the same economic constraints with deploying to rural areas as terrestrial providers, they can focus on the people most likely to need their service – those in rural parts of the US and around the world.

This new era of spaceflight is still unfolding, and many questions remain. But the FCC cannot afford to fall behind these developments – the risk is too high. The potential benefits of these innovative broadband services should cause us to reexamine our satellite rules to determine whether they help or hinder our goal of ensuring broadband access to rural America. We must adopt policies that both encourage investment in the networks we've already authorized, while leaving room for new players who will provide new competition and new services. By doing so, we will strengthen American leadership in the new Space Race and establish the US regulatory approach as a model for other nations.

Here are three things that the FCC can do to accomplish these goals. First, we need to encourage all operators to develop more spectrally efficient systems. As launch has become more frequent, we're trying to cram more satellites into fewer and fewer frequencies. To relieve this increasing pressure we must drive all operators—old and new—to utilize advanced technologies to use spectrum efficiently.

The FCC has repeatedly recognized that, because spectrum is a limited resource, parties must utilize it as efficiently as possible. In the satellite context, new technologies like phased array antennas and adaptive beam-forming will permit satellites to target narrow coverage areas more precisely and reuse spectrum many times over to maximize throughput.

Today's order takes some small, but significant steps in this direction. The FCC should consider a system's spectrum efficiency as part of future satellite policymaking initiatives, including its review of applications in future NGSO processing rounds. Doing so will encourage applicants to use the most innovative technology available, while increasing the amount of spectrum available for new entrants and new services.

Second, to encourage further deployments, we must make launch as accessible as possible. While many people may not be aware of it, the FCC has a critical role in authorizing commercial launches. Commercial operators currently use spectrum licensed to Federal users to communicate with and track their launch vehicles. Because of the Federal allocation of this spectrum, operators must work with Commission staff to obtain a Special Temporary Authorization for each launch. Parties file their STA applications, then our staff engages with federal stakeholders through emails and phone calls to negotiate access to the federal spectrum for each launch. If any details of the launch change over time – which they often do -- the launch operator must ask the Commission to go through this process again to rework the authorization.

This approach may have made sense in an earlier age of spaceflight, when the entire US launch industry launched less than 20 times per year, but we are rapidly approaching a period when a single operator could stage a launch each week. The Commission anticipated this problem more

than six years ago, when it issued a Notice of Proposed Rulemaking proposing several ways to provide spectrum for communications during commercial space launches.¹ Since then, however, this proceeding has laid dormant. Given the increasing pace of launches, we need to reenergize that rulemaking and move forward as soon as possible.

Third and finally, the Commission should proceed with its orbital debris rulemaking. As this item recognizes, the issue of orbital debris is a critical one, particularly given the growing potential for thousands of small satellites in low-earth orbit. Because of their numbers, small size and low orbit, these satellites present fundamentally different risks than traditional satellites, yet our rules have not been updated since 2004. Last year the Commission issued a Notice of Proposed Rulemaking on this important issue.² We need to move forward with final orbital debris rules to protect satellite safety and provide certainty to the rapidly growing satellite industry.

Rural internet inequality persists throughout America despite billions of dollars in state and federal government investment. But the new era of satellite service could help address this problem. Encouraging this promising industry takes more than uplifting statements. Like the federal government leaders that brought the success of Apollo 11, the Commission needs enact policies that ensure that America wins this new Space Race.

My thanks to the International Bureau for their work on this item.

¹ See *Amendment of Part 2 of the Commission's Rules for Federal Earth Stations Communicating with Non-Federal Fixed Satellite Service Space Stations; Federal Space Station Use of the 399.9-400.05 MHz Band; and Allocation of Spectrum for Non-Federal Space Launch Operations*, Notice of Proposed Rulemaking and Notice of Inquiry, 28 FCC Rcd 6698 (2013).

² *Mitigation of Orbital Debris in the New Space Age*, Notice of Proposed Rulemaking, 33 FCC Rcd 11352 (2018).