

**REMARKS OF FCC SENIOR COUNSEL NICHOLAS DEGANI
AT THE 6th ANNUAL LATIN AMERICA SPECTRUM MANAGEMENT CONFERENCE**

“A SPECTRUM POLICY TO MEET THE NEEDS OF ALL IN THE UNITED STATES”

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Good afternoon. This is the last session of the conference, and I'm sure that most of the audience is thinking what I'm thinking: I hope this guy keeps it short. But seriously, what an amazing two days this conference has been. I have learned so much about how others in our region are approaching spectrum management. More importantly, I have gotten the chance to know many of you. The United States has long seen Latin America as an important partner in our spectrum work—and I'm grateful for this opportunity to strengthen relationships that will serve us well at next month's World Radio Conference and in the years ahead.

Now, one thing has struck me: In certain ways, our jobs as regulators are quite relatable, not just to one another but to many people who know nothing about communications policy. That's because being a telecom regulator is a bit like being a parent. Think about it. You're sleep-deprived. You're constantly juggling priorities. You're trying never to let anyone down. And you're always accused of playing favorites. Indeed, just when you think you've solved one problem, a new one pops onto your doorstep.

Of course, one big difference between being a parent and a telecom regulator is that instead of asking for candy or a new toy, everybody is asking for spectrum. They say 5G will spur \$500 billion in economic growth and create 3 million new jobs . . . if you free up more spectrum. They say Wi-Fi's economic boost will double by 2023 . . . if you free up more spectrum. They say the space industry will grow to be a trillion-dollar industry by 2040 . . . if you free up more spectrum.

To some, the constant demand for spectrum (not to mention parenting) is exhausting. To me, it's exhilarating. That's why I'm excited to present a case study on what the United States has been doing under FCC Chairman Pai to promote a spectrum policy for all Americans.

Let's start with two principles. First and foremost, the United States favors a market-based approach to spectrum policy. The free market, not government, is the most effective tool for determining the highest value use of the airwaves. Accordingly, we support flexible use policies for wireless spectrum whenever feasible—leaving the choice of what technology should be used in what band to the private sector, which can adjust more quickly than government to changing technologies and the needs of our consumers and industry.

Second, spectrum can be a renewable resource with innovative, market-based policies. Once upon a time, spectrum policy focused on one-for-one swaps for incumbents, often leading to decade-long proceedings before new entrants could enter a band. Now, the regulators' toolkit is larger than ever before, with incentive auctions, market-based transactions, automated frequency control mechanisms, and other innovative means to clear spectrum for entrepreneurs and share it with incumbents like never before. That's opened a new world of possibilities to meet the ever-growing demand for this precious asset.

In the United States, we have been putting these principles to work under Chairman Pai with our 5G FAST Plan. That's our comprehensive plan to align infrastructure, regulatory, and spectrum policy to facilitate the swift deployment of 5G technology to all Americans. And so, we've adopted policies like One-Touch Make Ready to speed the deployment of fiber backhaul. We've streamlined our federal review of small cells and other wireless infrastructure. We've adopted a light-touch framework in the

Restoring Internet Freedom Order to minimize regulatory uncertainty and maximize private investment. And we've pursued an all-of-the-above approach when it comes to freeing up spectrum.

Now when it comes to exportable spectrum policies pioneered by the FCC, it's likely that none will ever top the spectrum auction. Initiated in the 1990s, FCC auctions have raised nearly \$100 billion for the U.S. government, and they have also enabled operators to meet consumers' insatiable demand for mobile connectivity. But to meet the need for new low-band spectrum this decade, traditional auctions were not enough. A new solution was needed: the incentive auction.

In a nutshell, the broadcast incentive auction combined two separate but interdependent auctions—a reverse auction to determine the price at which broadcasters would relinquish their spectrum usage rights and a forward auction to determine the price carriers would pay for new flexible use licenses. In the end, our 2017 auction cleared 70 megahertz for new licenses in the 600 MHz band, raising about \$7 billion net after payments to winning broadcasters and repacking costs for the nearly 1,000 stations who stayed on the air but changed frequencies.

The broadcast incentive auction was the first of its kind, but it won't be the last. On December 10, the FCC is scheduled to launch the spectrum frontiers incentive auction in the upper 37, 39, and 47 GHz bands; this will be the largest spectrum auction in U.S. history with 3,400 megahertz available for our operators.

And credit goes to our agency's economists for coming up with a new, innovative approach for this auction to deal with the fixed wireless incumbents in the band. Whereas the broadcast incentive auction used separate forward and reverse auctions, the spectrum frontiers incentive auction will use a single auction to set clearing prices for the forward and reverse auctions simultaneously. A voucher system will put new entrants and participating incumbents on a level-playing field and ensure that incumbents receive the market value of the spectrum rights they've put up for sale.

Now auctions aren't the only way we're creating new opportunities for 5G. Take the dynamic sharing model we've set up in the 3.5 GHz band, prime mid-band spectrum that I know many in Latin America are looking at for 5G deployments.

For too long, government incumbents in the United States occupied much of the 3.5 GHz band. They made little use of the spectrum across large parts of the country, but their operations precluded others from using it as well. And so, the FCC decided to create a three-tiered access framework to open it up for a mix of government and licensed uses. In particular, we have partnered with industry to establish Spectrum Access Systems that can dynamically manage demand for 3.5 GHz spectrum, prioritizing among incumbent, priority, and general access.

Now setting up these new, dynamic systems was anything but easy. Despite establishing rules in 2015, it was not until this year—and this month—that we've been able to get all of the technical issues ironed out so that American companies can start launching commercial deployments in this band. And thanks to the hard work of Commissioner Michael O'Rielly, we have also revised the rules to facilitate 5G deployment in this band, with an auction of priority access licenses now targeted for June 25, 2020.

Another mid-band target for us is the 2.5 GHz band; with almost 200 megahertz, it's the largest contiguous band of terrestrial, flexible use spectrum below 3 GHz. The problem we faced in the United States was that this prime spectrum was originally targeted for local, educational television use, with legacy restrictions on its use dating back to the 1980s. As a result, far too much of the band has lain fallow, especially in the western half of our country.

That's why this summer the FCC voted to liberalize the rules for the band, allowing more entities to access the spectrum and eliminating unnecessary restrictions. As part of Chairman Pai's commitment to bridge the digital divide, the FCC is giving Indian Tribes first access to this greenfield spectrum to

bring broadband to rural Tribal lands. We will make the remaining unassigned 2.5 GHz spectrum available for commercial use through an auction.

There are of course many other bands we are targeting for new terrestrial licenses—the 900 MHz, 3.7 GHz, 42 GHz, and 50 GHz bands spring to mind—but our 5G FAST Plan doesn't stop with licensed spectrum. We're also pursuing new opportunities for unlicensed use; next-generation WiFi is an essential element of our work.

Take the 6 GHz band. Now used primarily by point-to-point microwave services, studies have shown that sharing this band with unlicensed is feasible—and can put massive amounts of new spectrum into the hands of consumers. Think about this: The 6 GHz band contains 1,200 megahertz of potential spectrum for next-generation WiFi—that's about 14 times more spectrum than what's available for WiFi in the 2.4 GHz band. And recall that the gains from spectrum aggregation aren't linear—when you double the spectrum you more the double the throughput. It's no wonder the 6 GHz band holds the potential for low-latency, high-bandwidth uses like no other unlicensed band before.

Or consider the pioneering *Spectrum Horizons* proceeding. There, we made over 21 gigahertz of spectrum available for use by unlicensed devices above 95 GHz. You might think that the spectrum bands are too high to be practical, but the same was said of the 2.4 GHz band 30 years ago and the 24 GHz band 10 years ago. And we're opening the door for new experimentation in the upper reaches of spectrum through a new experimental license program that gives innovators strong incentives to develop new technologies using these airwaves while also protecting existing uses.

As we provide spectrum to unleash new terrestrial uses, we can't neglect the critical role played by satellite service. This is a particularly exciting area. We're not only seeing dramatic changes in satellites' capabilities; we're also witnessing a sea change in the economics of their deployment thanks to re-useable rockets.

To unlock these possibilities, the FCC is approving a new generation of low-earth orbit satellites to be deployed by the likes of Space X and OneWeb—satellites that can beam Internet access back to Earth at a speed and price point comparable to a terrestrial provider. And we've broached new sharing paradigms for satellite service in the millimeter-wave bands, while preserving their primacy in the 48.2-50.2 GHz and 40-42 GHz bands.

We've also facilitated the deployment of new Earth Stations in Motion, i.e., the satellite receivers that enables Wi-Fi on a plane, a train, or a boat. By eliminating regulatory burdens and adding frequencies where these receivers can operate, we expect this fast-growing segment of the satellite industry to innovate and invest in new technologies.

In short, the FCC is doing its best to keep everyone in the family happy—satellite companies, large and small wireless providers, broadcasters, unlicensed operators, and government users. We are pursuing a balanced agenda that addresses the needs of all these users for a simple reason: We want the best service for the American public. Just as we are committed to working with stakeholders across the wireless ecosystem in the United States, I am grateful for this opportunity to collaborate with all of you this week and moving forward. Working together, I hope we can work to harmonize spectrum policy for the benefit of all the people of the Americas.

Thank you.