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**Before the House Energy and Commerce Committee
Subcommittee on Communications and Technology**

“Repurposing the C-Band to Benefit All Americans”

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Chairman Doyle, Ranking Member Latta, and Members of the Subcommittee, I am Ross Lieberman, Senior Vice President of Government Affairs for ACA Connects – America’s Communications Association, a trade association that represents more than 700 small and medium-sized independent providers of broadband, cable television and other communications services. Thank you for inviting me to share the perspective of ACA Connects members on this issue of great significance, especially to rural America.

The subject of today’s hearing is repurposing the 500 megahertz “C-Band” to benefit all Americans. This task presents great challenges, but, as I will explain below, it also presents a great opportunity to deliver a “triple win” for the nation—5G, fiber, and funds for the U.S. Treasury.

Today, the C-Band is used primarily by cable programmers to deliver video to cable operators. Indeed, C-Band earth stations are the core infrastructure used by cable operators, including ACA Connects members, to receive these video feeds that they in turn deliver over their cable systems to customers’ living rooms. Popular channels like ESPN, HGTV, the Discovery Channel and HBO, and hundreds more, traverse the C-Band to reach over 90 million households nationwide. And, while cable operators in urban areas can use fiber as well as satellites to receive this programming, for most of the small and rural cable operators that ACA Connects represents, the C-Band is the only viable option.

Who are the ACA Connects member companies that rely on the C-Band? They are small businesses, often family-owned and -operated, and in many cases passed down from one generation

to the next. Most serve fewer than 1,000 customers. These businesses are deeply rooted in their communities, in small towns and rural areas across America. They continually reinvest in their networks, ensuring that their customers – who are neighbors, friends, and family – have access to the latest broadband, video and voice services at reasonable costs. They operate with ten or fewer employees in most cases without a dedicated engineer. To survive in a highly competitive landscape, they have learned to be nimble, creative, and devoted to their customers.

A perfect example is BOYCOM, based in Poplar Bluff, Missouri. BOYCOM's President, and ACA Connects' Chairman of the Board, is Patty Boyers, who testified before this subcommittee in June on the topic of STELAR and retransmission consent. She works tirelessly every day to deliver the best service to her customers, and as the Ranking Member of the full committee put it, "she knows her numbers." It's entrepreneurs like Patty that you should take into account when considering how best to reallocate C-Band spectrum.

For years, BOYCOM and hundreds of other ACA Connects members have relied on the C-Band for cost-efficient and reliable transport of the video programming that is the core of their video offering. The broad geographic reach of C-Band satellites allows video programmers to distribute their feeds to thousands of earth stations simultaneously, including in rural and remote areas. In a sense, the C-Band is a great "equalizer"—it is no more difficult or costly to beam signals to earth stations in Montana than in Manhattan, so cable operators in rural America have access to the same programming services as those in the city.

ACA Connects members have found the C-Band to be a reliable and efficient way to receive video, and it has enabled them to incorporate new technologies, such as HD feeds, into their offerings. Recognizing these benefits, ACA Connects members have invested hundreds of thousands of dollars per earth station to use the C-Band. In addition to constructing and maintaining satellite

dishes at their earth stations, they have purchased and installed equipment necessary to receive and process C-Band satellite signals in their headends. They also make continual changes and upgrades to this equipment as necessary to receive more and better programming over the C-Band.

For most ACA Connects members, alternative forms of receiving video, such as by terrestrial means, are not realistic options today. ACA Connects members have deployed substantial fiber in their networks to provide broadband service to their customers' homes, but the scale of their business does not support the construction of redundant "pipes" that would be large enough to transport all video traffic from dozens of programmers across the country to their systems. Nor is such connectivity typically available for lease from third parties. In the most sparsely populated areas that ACA Connects members serve, there is no business case to make the substantial capital investment necessary to build it. Thus, most of them rely exclusively on the C-Band.

The C-Band has served ACA Connects members well. However, the Federal Communications Commission (Commission) has proposed reallocating a significant portion of the C-Band (as much as 200 or even 300 megahertz) for 5G mobile wireless deployment, and by all accounts the agency is expected to move forward with a final decision soon. This prospect raises significant concerns for ACA Connects members. Reducing the supply of C-Band spectrum available for video transport will diminish the band as a pipeline for video delivery. It will become less reliable, less capable, and less affordable. There will be less spare capacity available to avoid outages caused by malfunctioning satellites that affect consumers. Furthermore, permitting wireless carriers to use the repurposed C-Band for 5G services will introduce new risks that video programming traveling on the C-band will suffer interference. In addition, the spectrum reclaimed for 5G will not be available to accommodate higher-resolution video feeds, such as 4K or Ultra-HD, not to mention other video offerings of the future. Maintaining demand for capacity and reducing

supply will also lead to price increases for programmers, and those costs will be passed through to cable operators through programming fees.¹

The smaller cable operators that ACA Connects represents – and their customers – are at heightened risk of harm in any transition of the C-Band. At minimum, they will need to install filters to protect their systems from interference, and in some cases they will need to repoint satellite dishes or replace them altogether. Tasks of this nature are particularly burdensome for ACA Connects members given their limited personnel and resources. And if ACA Connects members encounter interference or other complications during or after the repack, the steps necessary to resolve the problem quickly would impose additional burdens that could be difficult for a small company to bear. Unlike large operators in densely populated areas, ACA Connects members are not currently able to avoid these harms entirely by resorting to an alternative for video delivery, like fiber. This means that smaller cable operators will be unable to take advantage of any higher-definition programming that the diminished C-band cannot support and that is made available over fiber only.

The more spectrum that is repurposed for 5G, the greater the risk of harm to ACA Connects members. By many accounts, the Commission may seek to reallocate as much as 300 megahertz of the band, which would leave existing users with a mere 40 percent of the band for satellite service. There is no doubt that reducing the supply of C-Band capacity this sharply would lead to even less reliability, less capability of the band, and greater price increases, inhibiting the future growth of ACA Connects' members businesses further. Also, the more tightly existing C-Band users are repacked within the band, the more operationally complex and technologically ambitious the job of

¹ Whereas large programmers with popular content can pass these costs on in the form of higher programming costs to cable operators and their customers, independent programmers will likely have to bear this burden alone.

accommodating such a repack becomes, especially for small cable operators. The satellite industry's C-Band Alliance (CBA) has floated the idea of using video compression technologies, as well as encouraging programmers to drop their standard-definition feeds, as techniques to clear 300 megahertz of the band for 5G. This would be an arduous undertaking for cable operators.² It would involve a labor-intensive series of tasks, including the installation of dozens or even hundreds of pieces of new equipment at more than 2,000 cable operator earth stations across the country. For small cable operators in particular, this would be a grueling exercise, consuming hundreds of hours of staff time that would significantly detract from their efforts to improve and expand their broadband networks. And at the end of it all, ACA Connects members would be left worse off – the transition would be “all pain, no gain.”³

As of the time this testimony is being submitted, CBA has not submitted details of any plan to clear more than 200 megahertz of the C-Band, let alone 300 megahertz. While CBA has engaged extensively with large programmers and others to accommodate their concerns in any future plan,

² As AT&T puts it: “To date, the transition process as proposed by CBA has focused doing what would be necessary to clear 200 MHz—repacking transponder use in the C-band, coupled with the launch of new satellites, to rearrange and consolidate FSS use. This process might entail the installation of some new earth stations or repointing, but largely is concerned with the installation of earth station receiver filters to avoid harmful interference from parts of the C-band that would be occupied by 5G transmitters. In contrast, to clear 300 MHz will likely require the elimination of SD and the universal adoption of more efficient HEVC encoding. This process will require significant and difficult hardware installation and configuration at thousands of affiliate reception sites—installations that vary in significant details from provider to provider and even within the various head-ends of a single provider.” AT&T Oct. 23 Ex Parte Letter at 2, <https://ecfsapi.fcc.gov/file/10232042413472/2019-10-23%20ATT%20C-band%20Content%20Ex%20Parte%20-%20FINAL.pdf>.

³ Such a transition would similarly impose disproportionate harms on independent programmers with limited staff and resources. Free-to-air independent programmers, who offer their programming in an unencrypted form that allows any person with the appropriate receiving equipment to receive and view the signal without a subscription, would likely suffer worst of all. These programmers, which are often religious organizations, would face heightened logistical challenges, in part because they often lack a complete inventory of the earth stations that receive their free programming. Thus, they cannot effectively inform those who are receiving their signal of the need to take steps to continue to receive it. Even if these earth station users could be identified, some that receive the signal today may decide that the work necessary to continue receiving the free-to-air signal is not worth it and drop carriage of the signal altogether.

CBA has largely ignored ACA Connects and its members, who are the users that will be most burdened by any transition of the band and who are essential participants in completing any such transition on a timely basis. ACA Connects recently raised this lack of communication with CBA publicly, but was dismissed with the quip that CBA has “spent at least one hour” in the ACA Connects conference room.⁴ At any rate, as a matter of both law and public policy, CBA must put its plan on record, and parties must be given sufficient time to evaluate and comment on the plan and respond to the comments of other parties. CBA has thus missed its opportunity to submit a new plan the Commission could incorporate into rules adopted by the end of the year, which is barely two months away.

Does this mean the Commission needs to wait on CBA? Not at all. The Commission can act immediately to repurpose C-Band spectrum for 5G, while also protecting existing users of the band. The way to do it is to migrate video programming to a different transmission medium — fiber — which has the same or better video delivery characteristics as the C-Band but without the capacity constraints. Cable operators and programmers are widely distributing video programming via fiber today.⁵ It is not only as good as the C-Band, but can actually provide a superior product in terms of quality, reliability, and capability. If Congress and the Commission are sincere in making users

⁴ “MR. ROSS LIEBERMAN: I mean, I would say that there hasn't been a lot of communication between the satellite industry and the cable industry, particularly smaller cable operators in rural areas who would be impacted by this plan to migrate to higher compression and other things like that. We would welcome that outreach so that [we] can understand what it would mean, but we just haven't received it, unfortunately, and we would welcome it.

MR. PETER PITSCH: Ross, I don't know how you can say that. I've spent at least one hour in your conference room.

MR. ROSS LIEBERMAN: Point taken: one hour.” Capital Forum, “C-band Conference Policy and Legal Merits: Is a Court Fight Inevitable? Transcript of Panel 1: FCC and Congressional State of Play,” Vol. 7 No. 370, Oct. 15, 2019.

The one hour meeting mentioned by Mr. Pitsch occurred on April 17, 2019. It fell well before CBA was openly considering plans to clear more than 200 MHz, and there was no discussion of any plan along those lines.

⁵ Many large and medium-sized cable operators transport the video feeds they receive from programmers over the C-Band via fiber to their systems nearby that lack earth station receive facilities. All large pay television operators get some or all their video feeds via fiber directly from programmers.

whole, then cable operators, those that are using more than half of the C-Band today, must be given the option to transition to fiber.

ACA Connects and its allies have put a plan on record that achieves this necessary migration of video programming to fiber, and in doing so it would clear at least 370 megahertz of C-Band spectrum for 5G – an amount that exceeds CBA’s most ambitious plans. Under our “5G Plus Plan,” auction proceeds would be set aside to compensate all parties for their transition costs, including the costs to deploy fiber to reach cable systems in rural America. The plan contemplates a build out of 120,000 route miles of fiber in rural areas where this infrastructure does not exist, which would deliver extraordinary benefits beyond video. The newly deployed fiber is essential to deliver backhaul for 5G wireless service to ensure that the next generation of connectivity is available to consumers in big cities and small rural towns alike. It would also enhance residential broadband service and provide needed connectivity for hospitals, libraries, schools, and businesses. This buildout project is also projected to create more than 200,000 direct and indirect jobs over five years, offering a tremendous economic boost to rural America. And it can bring spectrum to market in many areas within 18-36 months, a timeline comparable to what CBA has proposed.⁶

Moreover, the 5G Plus Plan delivers for the American taxpayer. The plan would use a transparent, public auction to reallocate C-Band spectrum for 5G as required by the Communications Act. This transparent, market-based mechanism to put spectrum to its highest and best use has been successfully administered by the FCC for decades and has been replicated around the world to allocate spectrum. In the case of the 5G Plus Plan, some of the proceeds would flow to a transition

⁶ Moreover, because the 5G Plus Plan relies on the established process of a public, Commission-led auction to repurpose spectrum, it would not introduce the same degree of litigation risk – and potential for delay – as the “private sale” that CBA advocates.

administrator, which would be responsible for ensuring that all parties are appropriately compensated for their transition costs. The administrator would also provide substantial incentive payments (not to exceed a set amount) to certain parties, including satellite companies, in exchange for maintaining satellite service for C-Band users remaining on the band without price increases. The remaining auction proceeds (not to fall below a set amount) would go into the U.S. Treasury or be used as directed by Congress.

The satellite industry, by contrast, has proposed an unproven, private sale of C-Band spectrum in which it could reap a windfall of \$38 billion⁷ or more. ACA Connects strongly disagrees with that approach. The majority of the proceeds from the auction of C-Band spectrum, a public resource, would be better spent on infrastructure to make C-Band users whole, to connect rural America and to deliver other benefits to the public, rather than to serve the private interests of a few large satellite companies that do not own the spectrum in the first place.

In short, we are hopeful that policymakers will seize the once-in-a-generation “triple win” opportunity that the 5G Plus Plan presents: unleashing a large amount of spectrum for “5G” broadband services to consumers; enhancing fiber transport to rural areas throughout the country, which would help close the digital divide; and bringing in tens of billions of dollars for U.S. taxpayers.⁸

I commend Chairman Doyle and Representatives Gianforte, Johnson and Matsui of this Subcommittee for their introduction of the C-BAND Act, a bipartisan bill that incorporates many of

⁷ “Our base case assumes that the C-Band process generates \$50BN in gross proceeds, with \$12BN paid for clearing costs and the government’s take (which we assume is 20%), with \$38BN going to CBA members.” New Street Research, “Investors are Underestimating Demand for C-Band,” at 2, Sept. 16, 2019.

⁸ Copies of ACA Connects filings that articulate the details of the 5G Plus Plan are enclosed with this testimony. I welcome the opportunity to answer any questions about the plan.

the principles I have outlined in my testimony, including a public auction and ensuring that ACA Connects members receive the same or better service after any reallocation of C-band spectrum.⁹ I look forward to continuing to work with members of the Subcommittee on this issue and other matters of public concern.

The race to 5G is underway, and no doubt the C-Band has an important role to play in ensuring that the United States comes out on top. ACA Connects strongly supports this objective and has put forward a detailed and realistic plan to accomplish it in a transparent manner that protects existing uses of the C-Band, including the delivery of video programming that informs and entertains millions of Americans each day, and helps ensure rural America is not further left behind in the digital age. Thank you for allowing me to share the perspective of ACA Connects and its members on how best to achieve these goals.

⁹ If cable operators encounter any reduction in reliability, capability or quality of that service, or any increase in costs, it is competition and consumers that will ultimately suffer, especially in rural America. To head off these concerns, it is important that any C-Band transition fully compensate cable operators for any costs they incur in opening up the band for 5G, and that cable operators can choose to receive programming via fiber instead of satellite.