Jimmy Miller
Chairman - National Association of Tower Erectors (NATE)
President of MillerCo

Before the
Committee on Commerce, Science, and Transportation
United States Senate
on
"The 5G Workforce and Obstacles to Broadband Deployment"

January 22, 2020

Mr. Chairman and members of the Committee, my name is Jimmy Miller. I am the President of MillerCo, a privately held woman-owned company established in 1997 in Gulfport, Mississippi. MillerCo offers a complete range of services for the wireless industry. These services include the installation and maintenance of wireless technologies and any other appurtenances associated with a cell tower site including the FAA Obstruction Lighting Systems.

I am testifying today on behalf of the National Association of Tower Erectors, also known as NATE, for which I serve as its Chairman. NATE is a non-profit trade organization whose membership encompasses all layers of the communications infrastructure ecosystem, and now includes over 900 member companies that construct and service and maintain hundreds of thousands of communications towers, distributed antenna systems (DAS), small cell networks and broadband throughout all 50 states and 13 other countries. I am honored to serve as a voice today on behalf of NATE's membership, a majority of which are the small business contractor firms like mine that enable connectivity on a daily basis.

I am also privileged to testify alongside FCC Commissioner Brendan Carr and Lisa Youngers at today's hearing. Commissioner Carr, along with FCC Chairman Ajit Pai, have been outspoken champions advocating for greater workforce development in our industry. Incidentally, both Chairman Pai and Commissioner Carr have visited a number of our NATE member tower facilities around the country, and both have actually climbed towers with the crews from some of our member companies. If any of you would like to visit a tower site or small cell pole in your respective states, we can make that happen. You don't even have to climb if you are afraid of heights!

Given the demographic reach and diverse make-up of NATE's membership, the Association is well positioned to articulate what we believe to be the primary obstacles to 5G and broadband deployment during today's hearing.

I want to start by focusing on the most significant challenge with which our industry and contractor firms like mine are dealing, which is the shortage of a properly trained and qualified workforce that is expected to possess the diverse skill set necessary to produce the expansion of universal broadband, public safety and ubiquitous 5G coverage across North America, while completing the broadcast repack. If we are to win the hyper-competitive global race to build and deploy 5G, which will enable our national, state and local economies to leverage technologies based on the Internet of Things, smart cities, artificial intelligence and virtual reality, we must ensure that we have enough trained workers. We simply cannot meet these national goals without doing so.

2020 marks the early stages of what appears to be a protracted cycle for the telecom industry as we deploy the next generation of wireless and integrate innovative technologies to enhance the economy. However, the 5G rollout, coupled with targeted initiatives to continue to expand broadband and related infrastructure to rural and underserved areas of the United States, is creating a major industry challenge across the country, its various regions and communities. This challenge involves attracting, recruiting and retaining a skilled, productive and safe telecom workforce for all industry sectors.

Based on industry estimates, our industry has approximately 29,000 workers, who we call tower technicians, as part of our existing labor pool. According to recent projections, the industry could accommodate as many as 20,000 additional technicians over the next 10 years to meet current and future demands related to next generation infrastructure and broadband deployment activities.

In my role as President of MillerCo, I have experienced first-hand the challenges associated with attracting, recruiting and retaining workers. These workforce challenges confronting the industry serve to increase the pressure on small contractor companies like mine to hire individuals who we will mold into skilled tower technicians.

Based on my personal experiences and the feedback NATE receives from our member companies on a weekly basis, some of the impediments to growing the workforce include, but are not limited to, the following factors:

- Lack of public awareness of the telecom industry's career opportunities
- Dearth of industry programs at the community college/technical college level
- Competition from other industry sectors and construction trades
- The surging demand for new workers created by 5G deployment, rural broadband initiatives and projected new builds (explosive demand far exceeds supply)
- Decline in population growth (fewer students in pipeline)
- Lack of funding at the federal, regional, state and local levels
- Unwillingness to work at heights and extensive travel are barriers to entry for prospective workers

- Graying workforce unable to handle rigors of technician jobs
- Lack of awareness by parents, youth and adult workers of a viable career and pathway in the industry

It is not enough for men and women to say they want a career as a wireless infrastructure technician. They first have to be willing and physically capable to do the job, often working at elevation. While there are many thousands of communication structures less than 200 feet high, there are an enormous number taller than that, and broadcast towers can reach 2,000 feet high. The workforce we are seeking to attract to our industry must be able to possess a diverse skill-set that can navigate many different sizes of communications structures.

These highly skilled technician positions must be filled by people sufficiently educated and trained in proper techniques and in the use of the requisite equipment. This is not a quick undertaking. Employers who train their own employees and the industry's private training company providers can often get a technician through rudimentary safety training in two weeks, but he or she needs at least a year on the job to become competent at a specialty in which the employer works.

Additionally, the technical skill-sets required of technicians continue to become more complex as next generation technologies evolve. Today's technicians need to expand and diversify their skill-sets to include training in areas such as small cell antenna installation, 5G equipment specifications, 5G construction best practices, 5G infrastructure design, distributed antenna systems, fiber work; as well as possess a fundamental understanding of spectrum bands and radio frequency (RF) characteristics related to 5G.

In addition to the workforce challenges I have articulated, I would be remiss if I did not mention another obstacle to the 5G and broadband build cycle that I and other NATE members are experiencing. This threat to 5G and broadband deployment is the extensive regulatory processes that are often in place at the federal, state and local levels. NATE member companies can't deploy networks and infrastructure, and consumers and enterprise can't benefit, until these often onerous regulatory zoning and siting hurdles are appropriately addressed. To maintain the United States' position as a global leader in 5G and accomplish the government and industry's collective deployment objectives, the Association favors streamlining the processes at the federal, state and local levels to modify or eliminate unnecessary, expensive and oftentimes excessively onerous regulations.

Potential Solutions

Addressing the industry's challenge to attract, recruit and retain a skilled, safe and productive workforce will require a commitment of collaboration at the federal, regional, state and community levels between companies, educational and community-based institutions. Additionally, it will require a great deal of advocating and coordinating to ensure that information is shared and relationships are forged consistently across the nation.

NATE's leadership has committed to investing in workforce development and training initiatives to promote the professional career path opportunities available in our thriving

industry. The Association's commitment in this arena is reflected by the establishment of the NATE Workforce Development Committee. The mission of this group is to create awareness and provide information of the many career opportunities in the telecommunications industry to individuals. Through partnerships, the NATE Workforce Development Committee is working to facilitate educational opportunities to individuals who are seeking a new vocation/occupation.

I am proud that I joined some of my colleagues in representing NATE in a workforce development-themed event at the White House last year commemorating the one-year anniversary of the Pledge to America's Workers initiative, a key program of the Administration's National Council for the American Worker. At the event, we affirmed our organization's commitment to facilitating training and professional development opportunities for 10,000 current and future workers over the course of the next five years.

A major component of workforce development is the abundance of training available in the industry to develop and grow a skilled workforce. NATE facilitates high quality training by providing best practices guidelines, standards and subject-matter expertise to ensure that minimum benchmarks are established in training curriculum. Additionally, NATE has approximately 25 private training companies which provide third party training services as members of the Association.

The NATE EXCHANGE also continues to be a "go-to" website platform for wireless construction and maintenance companies and individual tower technicians to gain access to training courses in the wireless infrastructure industry. The EXCHANGE, which offers technical training courses from our member training providers in 17 different skill categories, is a valuable benefit as NATE member companies qualify for discounted rates in designated training courses offered on the website portal.

Federal grant-enabled training sessions have been a resource that NATE has tapped into to facilitate training in the industry. For the fifth consecutive year, NATE was selected by the U.S. Department of Labor - OSHA to receive a Susan Harwood Targeted Topic Training Grant. The Susan Harwood Training Grant Program awards funds to non-profit organizations on a competitive basis. Awards are issued annually based on congressional appropriation.

Through these training grants, NATE has been able to positively impact the marketplace by developing curriculum and offering free training sessions nationwide on courses including topics such as Train-the-Trainer, Fall Prevention, Rigger Awareness, Advanced Rigging Principles and Wireless Rooftop Deployment (this year's grant program). As an added benefit, at the conclusion of every grant program year, NATE makes the training curriculum available on the Association's website for companies and workers in the industry to utilize.

To provide further direction and focus to NATE's workforce development efforts, the Association recently retained GKF Consulting, LLC to develop an industry-specific needs assessment and workforce strategic plan. A central hallmark of this plan is to address the educational needs of the industry by advocating for a workforce system of "Telecom Center of Excellence" certificate-based programs strategically located around the country at community colleges and technical institutes.

NATE believes that the Tower and Wireless Installation Program at Aiken Technical College in Aiken, South Carolina and the Wireless Infrastructure Technician program at Southeast Technical Institute in Sioux Falls, South Dakota are two existing educational programs that should serve as models to emulate nationally to promote the professional career path opportunities available in our industry.

These two programs are great examples of higher education and private industry partnering to help meet the skilled labor shortage that limits future growth. For many companies like mine, we are the entity that provides the training and the resources while on the job. Developing more programs like this will provide the necessary training and resources prior to starting in the field, which will only help to elevate the individual and the industry, and in turn will provide much greater outcomes for success for everyone across the board.

Members of the Commerce Committee can play a role in helping support this effort by introducing and advancing companion legislation in the Senate to H.R. 1848, the "Communications Jobs Training Act." This bipartisan legislation, introduced in the House by Reps. Dave Loebsack (D-IA) and Markwayne Mullin (R-OK), would authorize $20 million per year for three fiscal years to direct the FCC to carry out a competitive grant program to make funding available to develop classroom and field-based curriculum and certificate programs at community colleges, vocational institutes and military organizations to attract and train a future pipeline of workers to build, deploy and maintain the next generation networks and related infrastructure that are so vital for America's future. This is NATE's top legislative priority for the 116th Congress and we ask that members of the committee embrace this important bill in the Senate. While this and other measures that deal with workforce development only represent modest steps that are frankly insufficient to enable our industry to keep pace with the growing demand for enhanced communications services, they are collectively a significant step in the right direction.

NATE also views S. 2363, the "Tower Infrastructure Deployment Act," as another bill that merits Senate support. This legislation would amend the Communications Act of 1934 to establish a Telecommunications Workforce Development Advisory Council within the FCC to facilitate participation in industry-specific workforce development programs and identify ways to improve workforce development in the communications industry.

NATE's commitment to workforce development is also highlighted in the Association's investment in providing the initial round of seed funding to support the launch of the National Wireless Safety Alliance (NWSA). NWSA is a 501(c) (6) assessment and certification organization that provides nationwide, portable worker credentials to tower technicians in progressive worker categories in order to ensure continued excellence and professionalism in the industry. After workers receive training to become tower technicians, companies have an opportunity to ensure that their workers obtain NWSA certification credentials that are applicable throughout the country. Workers, regardless of their training pathway, will ultimately be required to take a standardized NWSA knowledge and field-based assessment in order to become certified. NWSA offers worker certification credentials in the following worker categories: Telecommunications Tower Technician I (TTTI), Telecommunications Tower

Technician II (TTTII), Antenna & Line Specialty and Foreman. Much like an electrician's card, the NWSA certification card is a source of pride for workers and is creating a career pathway for the industry's technician workforce to follow.

The Wireless Infrastructure Association is the national sponsor of the Telecommunications Industry Registered Apprenticeship Program (TIRAP) and this initiative represents another opportunity to grow the workforce. I have the privilege of serving on the TIRAP Advisory Board. TIRAP administers a total of nine occupations, all critical to the development and deployment of 5G networks. Apprenticeship-based training is tailor-made for companies like mine.

TIRAP's entry-level apprenticeship is the occupation of Telecommunications Tower Technician ("TTT"). A TTT is a member of a crew performing general construction activities with an emphasis on tower system installation and maintenance/inspection of existing support structures used in the provision of telecommunication systems, including personal wireless communications, public safety communications, utility networks and broadcasting.

The apprenticeship utilizes a competency-based approach that measures the individual apprentice's skill acquisition through a combination of specified minimum number of related technical instruction, on-the-job learning and the successful demonstration of competency in a variety of skills and safety protocols as described in a work process. The work process schedule developed by TIRAP draws from current regulations and industry standards and generally accepted best practices to outline the necessary competencies that must be mastered by the apprentice in order to be credentialed as a TTT. 5G will require many additional occupations beyond tower techs. RF engineers, site acquisition managers, antennae installers and host of others will be required to deploy next generation wireless networks.

While the White House has made 5G workforce deployment a priority, the Department of Labor has yet to turn its focus on addressing 5G workforce challenges. There need to be additional opportunities for companies and organizations to grow apprenticeship programs in the telecommunications sector. It is my hope that some of these issues can be appropriately addressed and the process significantly streamlined to allow more workers to be trained in accordance with TIRAP training pathways and for employers to receive funding for some of the training. It is essential that DOL place a priority on developing the 5G workforce through apprenticeships as an industry of the future that will create jobs in virtually every sector of the economy; by some estimates, up to 22 million jobs will be supported by 5G.

Speaking of apprenticeship programs, NATE encourages Commerce Committee members to assist our industry by also supporting S. 951, the "Apprentice Hubs Across America Act of 2019." This legislation promotes registered apprenticeships within in-demand industry sectors like ours, through the support of workforce intermediaries and for other purposes.

Attracting transitioning veterans with military backgrounds for technician careers is another focal point for the Association and presents a golden opportunity for the industry. NATE member organizations Airstreams Renewables, Inc. and Warriors4Wireless are both directly involved in training veterans for new careers in our dynamic industry.

NATE holds a Board of Directors seat on the Warriors4Wireless organization that is bridging the gap between the demand for trained and deployable wireless technicians, and the thousands of qualified service men and women eager to transfer the skills they've learned in the military. Warriors4Wireless provides training, advanced certification and transitional support, giving veterans the building blocks they need for an exciting and fulfilling career in the telecommunications industry.

The efforts of the Warriors4Wireless organization are starting to scale. According to President and CEO Kevin Kennedy, in 2019, the organization trained and placed 141 veterans (who attended a two week training program and were then connected to hiring partners) with industry companies and directly placed (identified veterans, screened and then connected to hiring partners) an additional 309 veterans to industry companies. This equates to a total of 450 veterans the Warriors4Wireless organization assisted and connected to jobs in the industry in 2019 alone. Additionally, for the past 30 months, Warriors4Wireless has had a 100% success rate in getting their technician graduates at least one job offer.

In 2020, Warriors4Wireless projections include training and placing 280 veterans to employers and directly placing an additional 320 identified veterans to employers in the industry, for a total of 600 veterans assisted.

NATE believes that enhancing the use of emerging technology like unmanned aerial systems – drones -- into commercial communications infrastructure work will also play a role in helping to address the tower industry's workforce shortage by maximizing the use of our available manpower, without the loss of any jobs. We estimate that the use of drones for tower inspections can reduce the number of climbs by tower technicians by as much as one-third, which will reduce risk to climbers while facilitating and expediting necessary tower work.

We hope that these collective efforts will help to attract more potential workers. But a simple fact remains: it seems that the services our industry provides all too often are taken for granted, and many people – particularly younger individuals – don't even think about, much less contemplate, a career in our industry. We have to do a better job of marketing and publicizing our industry and telling the story of the career pathways and earning potential available in our industry.

The last several years, NATE officials have made a concerted effort to conduct workforce development meetings and forged relationships with representatives from third party, national advocacy organizations including the Association of American Community Colleges (AACC), Association for Career and Technical Education (ACTE), Capitol Tech University, National Black Church Initiative (NBCI), League of United Latin American Citizens (LULAC), National Urban League, National Association of the Advancement of Colored People (NAACP) and Multicultural Media, Telecom and Internet Council (MMTC). During the meetings, NATE focused on educating these organizations on the career opportunities available in the wireless and broadcast industries to help promote the profession and recruit a pipeline of workers into the industry.

Immediate earning power for technician level workers can range from $45,000 to $70,000 per year with lots of room for advancement and growth. It is not uncommon for technicians to follow a progressive pathway of being promoted to a crew foreman, a construction manager, project manager and even a company executive-level role. What other profession allows employees to be promoted on the way down -- in our case -- down a tower!

I also would like to return briefly to the subject of streamlining the existing burdensome regulatory environment that I referenced earlier in my remarks. NATE is currently represented by Miranda Allen, CEO of member company RSI Corp, on the FCC's Broadband Deployment Advisory Committee's (BDAC) Job Skills and Training Opportunities Working Group. Additionally, Leticia Latino-van Splunteren from member company Neptuno, USA Corp is serving as the Chairwoman of the BDAC's Job Skills and Training Opportunities Working Group. NATE is encouraged by the work that the BDAC and its working groups are doing to identify opportunities to remove current regulatory barriers. It is imperative that the FCC prioritize implementing recommended processes as soon as possible so as to expedite 5G deployment.

NATE applauds the bipartisan leadership of Senators John Thune and Brian Schatz in introducing the "STREAMLINE Small Cell Deployment Act." As you know, this legislation would implement fee limits, streamline deployment timelines and include other key measures that would position the United States to win the global race to 5G. You and your colleagues can play a major role reducing the regulatory obstacles to deployment by supporting legislation like this and others that may be introduced.

NATE is also supportive of the "Broadband Interagency Coordination Act", bipartisan legislation introduced by Chairman Wicker and Senator Amy Klobuchar. This legislation requires the Federal Communications Commission, the U.S. Department of Agriculture and the National Telecommunications Information Administration to enter into an interagency agreement that mandates coordination among the agencies for the distribution of broadband deployment funds.

NATE also commends Chairman Wicker and Senators Gardner, Baldwin, and Peters for recently introducing the "Industries of the Future Act of 2020." NATE supports this forward-looking legislation as a mechanism to ensure that the next generation wireless networks and the infrastructure jobs they create receive the appropriate level of research, development and funding to ensure the United States remains the global leader in wireless innovation.

In conclusion, I would like to thank the Committee for this opportunity. Please be assured that NATE's commitment to safety, education and training in constructing, maintaining and deploying communications infrastructure will never be compromised. NATE members will do everything we can to help meet the wide range of national communications goals, including the completion of the repack and the expansion of broadband and other endeavors addressing 5G as well as programs to close the digital divide. Our bottom line is that we want work to be done properly and efficiently, and that at the end of the day, we want our workers to come home safely. This is good for us, for you, for our nation's economy, competitiveness and homeland security, and for our vital communications capabilities.