

**REMARKS OF FCC CHAIRMAN AJIT PAI  
TO THE ASSOCIATION OF FEDERAL COMMUNICATIONS CONSULTING ENGINEERS**

**“ENGINEERING THE FUTURE OF BROADCASTING”**

**ROSSLYN, VA**

**FEBRUARY 22, 2019**

It's great to be with the AFCCE. It hasn't even been three months since I was last with many of you. In late November, I was honored to join you at the National Press Club for the presentation of the E. Noel Luddy Award to the FCC's Hossein Hashemzadeh.

Hossein is just one example of the great engineers who work at the Commission. And that group of engineering talent is critical to the FCC's success on a bunch of issues. That's why, under my leadership, the Commission has taken steps to ensure that it will have the engineers it needs to confront the technological challenges of the future.

For years, the FCC has had an Honors Attorney Program to attract top young legal talent. But it didn't have an equivalent for engineers. That's now changed. To ensure that our engineering resources are regularly restocked, and to attract the best and brightest, we've established an Honors Engineering Program. This program brings recent engineering graduates to the Commission. It got off the ground last year, and I'm pleased to report that we have just finished hiring a new class of Honors Engineers who will start later this year. Replenishing the ranks of the FCC's engineers will only grow in importance as the technologies that we regulate become more complex. So if you know of any engineers looking to get into public service, send them our way!

Of course, I can't recognize the importance of the Commission's engineering talent without thanking AFCCE for its sponsorship of the Luddy Award. When it was given to Hossein Hashemzadeh last year, we were also joined by the FCC's Rudy Bonacci, who won the 2017 Luddy Award, and, of course, FCC legend and Luddy recipient John Reiser, who is still active with AFCCE and coordinated today's luncheon. Hossein and Rudy and John and people like Julie Knapp may not be household names, but people in all corners of this country have benefitted from their public service. So, thank you for all AFCCE has done over the years to make sure that the unsung heroes of the Commission get some well-deserved and long-overdue recognition.

Of course, AFCCE's relationship with the Commission goes beyond the E. Noel Luddy Award. We value your expertise on the engineering challenges that underlay many items we consider. For example, back in 2012, when I was a Commissioner in the minority, I called for the FCC to launch an AM Radio Revitalization Initiative. We issued a Notice of Proposed Rulemaking the following year, and AFCCE submitted both comments and reply comments regarding our proposals. I very much appreciated your feedback, which helped us develop the initial set of AM radio reforms that the FCC unanimously adopted in 2015. And in 2017, we made further changes to our AM radio technical rules, addressing topics such as partial proof of performance rules and Methods of Moments proofs that AFCCE members are among the few to understand. Your efforts make a real difference, as I see and hear about whenever I visit an AM radio station in this country.

Your work as consultants also contributes to more efficient operations at the Commission, as you help to make sure that applications and waiver requests to the Commission are in order. To borrow a line from Rudy Bonacci, "We help you, so you can help us." Sort of a digital variation on the Jerry Maguire-Rod Tidwell relationship.

This afternoon, I'd like to briefly walk through the latest developments on three key issues where our interests overlap: the transition to ATSC 3.0, the next-generation broadcast television standard; the post-incentive auction repack; and interference involving FM translators.

You'll notice that each of these topics involves broadcasting. During my more than six-and-a-half years on the Commission, my passion for a vibrant broadcast business has been no secret. And a successful broadcasting business requires both technical innovation and Commission rules that are based on sound engineering principles.

In November 2017, the Commission first authorized broadcasters to use ATSC 3.0. I recognize that many of you in this room worked directly on the ATSC 3.0 standard, so you already know better than anyone the great promise of this new technology. Notably, ATSC 3.0 is the first transmission standard to combine the advantages of broadcasting and the Internet. And it enables enhanced and innovative new features to consumers, such as Ultra HD picture and immersive audio, enhanced emergency alerting, and improved accessibility options, to name a few advances.

Now, the rules took effect in July 2018, and the FCC has been working hard to ready itself to accept Next Gen TV license applications. Some IT work still needs to be done in terms of designing a new form in our Licensing and Management System, but our Media Bureau expects that the database changes will be completed in the second quarter of this year.

Currently, the Bureau is drafting another order in the ATSC 3.0 proceeding to address a few remaining open issues, such as how to handle the Commission's local simulcasting requirement if a station doesn't have a viable simulcasting partner. The Bureau is also drafting an order to resolve issues that were raised in petitions for reconsideration.

In the meantime, the Commission has authorized five experimental Next Gen TV licenses to start ATSC 3.0 market trials in Chicago, Dallas, and Phoenix as well as Lansing, Michigan and Santa Barbara, California. This past August, I had the chance to check out the market trial in Phoenix, which is at the local Univision station. I experienced a full-on interactive experience that would have been unimaginable back when this speaker was a child holding the rabbit ears just to enable the Pai family to get better reception of "The Jeffersons" on broadcast TV. The fact that I was in Arizona in August and my memories were of the demo and not the heat tells you everything about how impressed I was and encouraged I am about the potential of this new standard. Movin' on up, indeed.

Thank you for your advice throughout the ATSC 3.0 proceeding. Please continue to keep us informed on market trials, station upgrade experiences, and unexpected issues that pop up along the way so that we can best facilitate the advances that you're working so hard to bring to life.

Let me shift now to the TV repack. The broadcast incentive auction was one of the most challenging undertakings in FCC history. I think the most common perception of the auction is that the big challenge was creating a two-sided auction—taking spectrum used for broadcast TV and repurposing it for wireless services. But some people fail to think about what came next—namely, that about half of our nation's broadcast TV stations are in the process of changing their transmission frequencies to clear part of the spectrum for wireless use. We're talking about a channel and/or location change for almost 1,000 full power and Class A television broadcasters and about 2,000 low power and television translator stations. Now, that's a challenge. Fortunately, we're relying on engineers like you to work through this process.

I'm pleased to report we've made great progress since the close of the incentive auction and the start of the transition period in April 2017.

As you're likely aware, the FCC established a phased transition schedule. Repacked stations have been assigned to one of ten transition phases, during which they have to move to their post-auction channels. At the end of Phase 1, which ended on November 30 of last year, 143 repacked stations had

already moved off their pre-auction channels. By contrast, according to our original plan, only 90 stations were supposed to be repacked by the end of Phase 1. That's good news; we're ahead of schedule. Right now, we're in the middle of Phase 2, which ends on April 12, 2019. Thus far, over 20 of the approximately 115 stations assigned to Phase 2 have moved to their new channel. So the next two months will be busy ones for tower crews, broadcast stations, and engineers.

Not only are we ahead of schedule, we have the resources to help stations do the job. Thanks to the additional \$1 billion provided by Congress last year, we now have a total of \$2.75 billion available to reimburse broadcasters for repack costs and conduct consumer education. And the Fund Administrator has already approved over \$350 million in reimbursements.

We know that there's still a lot of hard work left to do. Successfully completing the repack on schedule will require continued coordination among government officials, tower companies, equipment manufacturers, broadcasters, and consultants. The FCC's terrific staff is in daily contact with stakeholders, including AFCCCE members who are fully engaged in helping stations navigate the transition. We're working to make sure that stations are on pace to move by their phase completion dates, and to help stations find flexible solutions to transition problems in ways that don't harm other repack stations.

Turning the dial from television to radio, I'd like to update you on our FM translator proceeding. Our efforts to revitalize AM radio have been going well. Most notably, we've held four windows through which AM broadcasters have been able to obtain FM translators. This can help them improve their programming, expand their listenership, and stabilize their financial position, as broadcasters have told me everywhere from big cities to small-town Marysville, Kansas.

But with the success of these windows has come an uptick in interference complaints from primary FM stations due to the increasing number of translators on the air.

To address this concern, last May, we launched a rulemaking to streamline and expedite our current process for resolving interference complaints. Our goal is simple: to make them fewer and easier to resolve.

In response to a broad consensus from the broadcast industry, we proposed to allow translators to change to any available channel to avoid interference. We also set out to establish clear expectations for what has to be included in each interference claim and how we expect interference issues to be resolved. For example, we proposed to establish a minimum number of listener statements as well as clarify the technical data to be submitted with each interference claim.

We also proposed to establish an outer contour limit within which interference complaints will be considered actionable. By doing so, we seek to strike a balance between providing certainty for translator operators while preserving the secondary status of translators and protecting the bulk of the listening audience of full service stations.

The engineering community gave us a lot of thoughtful feedback on the various proposals in the NPRM, particularly individual engineers who took their own time to relate their experiences with translator interference issues. We really appreciate that expert advice. Our Media Bureau is currently drafting an order resolving these issues, and I look forward to the full Commission taking action this spring to make translator interference resolution a faster and less contentious process.

Before I say goodbye, I'd like to make one more point. In addition to being George Washington's birthday, today marks a special anniversary in U.S. history. It was 39 years ago today in Lake Placid that a plucky band of American college kids shocked the mighty Soviet hockey team and ultimately shocked the world. The Miracle on Ice offers a powerful lesson about how teamwork can overcome talent. But for me, the lesson that seems most relevant is not about overcoming the odds and adversity, but dealing with success. Many people forget that the Miracle on Ice wasn't the gold-medal

game. The United States team still had to turn around two days later and play Finland to win the gold. They were actually down 2-1 going into the third period before pulling out a 4-2 victory. The point being: We've made a lot of progress of late and accomplished many successes together. But there's still work to do on each front before we can claim victory. So let's keep our eyes on the prize and keep working together to seize these opportunities for the American people.