

**OPENING REMARKS OF COMMISSIONER AJIT PAI
AT CTIA 2013's PANEL ON THE SPECTRUM INCENTIVE AUCTIONS: STEP RIGHT UP!
LAS VEGAS, NEVADA
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As many of you know, I've been spending a lot of time at the office thinking about the upcoming broadcast incentive auction. What you might not realize is that it's started to influence my home life. Collaborating with our team of Nobel Prize winning economists at Stanford, I've been designing an incentive auction that I hope will reallocate the assignment of Pai household chores by the end of 2014. When I see my twenty-month-old son's toys scattered on the floor, I begin thinking about the right algorithm to repack them into his toy chest. And when no one's looking, I use my son's Legos to construct new and novel 600 MHz band plans. It turns out, by the way, that my son is a much tougher critic than any commenter in this rulemaking—when he sees a Lego band plan that he doesn't like, he screams at the top of his lungs and destroys it with his bare hands.

On a serious note, my office has been closely studying the record that the Commission has compiled in the incentive auction rulemaking. The comment period has been closed for a couple of months now. And so, while our office continues to actively explore the issues, I thought that this was a good opportunity to let you know what I'm thinking about some of the complicated matters that the Commission is facing.

When we kicked off the incentive auction proceeding with the Notice of Proposed Rulemaking, I outlined four basic principles to guide our deliberations. First, we should be faithful to the statute passed by Congress. Second, we should implement the law in a manner that is fair to all stakeholders. Third, we need to keep our rules as simple as possible. The incentive auction is inherently complicated; we shouldn't make it more so. And fourth, we should conduct an auction within a reasonable timeframe. We haven't conducted a major spectrum auction since 2008, and there is an urgent need to make additional spectrum available for mobile broadband. Moreover, uncertainty doesn't serve anyone's interests—no wireless companies, not broadcasters, and certainly not the FCC.

I still believe in these four principles. But in hindsight, I now realize that I should have added a fifth. In addition to the laws enacted by Congress, the laws of physics will play a major role in our decision-making. Particularly when it comes to developing our band plan and repacking methodology, we must deal with the world the way that it is, not as we might wish it were. This means putting ideology and politics aside and concentrating instead on the simple question of what will work from an engineering perspective. The laws of physics aren't liberal or conservative, Democratic or Republican; they are immutable. And unfortunately, even after Monday's Supreme Court decision, Mother Nature doesn't give the Commission *Chevron* deference.

Keeping in mind these principles, I believe we can start taking issues off of the table in the incentive auction proceeding and turn our attention to the challenges that remain. These issues and challenges involve the 600 MHz band plan, auction design, repacking, and international coordination.

Start with the band plan. I support the "down from Channel 51" approach that has been proposed by the wireless and broadcast industries. Uplink spectrum should be located at the top of the band and should be separated from the downlink spectrum by a duplex gap that does not include *any* broadcast stations. Downlink spectrum, in turn, should be located between the duplex gap and channel 37—which, by the way, should not be relocated. If we clear more than 84 MHz of spectrum and go below channel 37, we should devote that spectrum to supplemental downlink.

I realize that this approach differs from the principal band plan proposed in the NPRM. But there is an overwhelming consensus that the latter plan would lead to substantial interference problems. In fact, that band plan received virtually no support from stakeholders. Former Chairman Genachowski said back in September that we need to "learn[] from the public record . . . and adjust[] our proposals as necessary

to ensure the auction succeeds.”¹ Accordingly, it is time for the Commission to move on from the NPRM and embrace the consensus “down from Channel 51” proposal.

Looking at specifics, the record is clear that a duplex gap of 12 MHz will be sufficient to prevent harmful interference. That makes our job easy, since Congress instructed that guard bands be “no larger than is technically reasonable to prevent harmful interference between licensed services outside the guard bands.” I therefore believe that the duplex gap should be no more than 12 MHz. Indeed, having a larger duplex gap would actually cause problems involving antenna design for handset manufacturers.

For the same reasons, the guard band between downlink spectrum and high-powered TV broadcast stations should be around 10 MHz. I’ll admit that my views on this issue have evolved since we adopted the NPRM. At that time, I wasn’t sure that the guard band would even need to be 6 MHz. But I’ve been persuaded by the evidence submitted, which indicates that the guard band needs to be about 10 MHz to prevent harmful interference between wireless carriers and broadcasters.

When it comes to guard bands, another important question inevitably pops up: What operations, if any, should be allowed there? Well, as I said earlier, I will not support placing any television stations in the duplex gap. But aside from that, I have an open mind so long as operations don’t harmfully interfere with adjacent licensed services. That’s what the law requires, and that’s just common sense. On this issue, we need to move past the rhetoric and the slogans. If you want to use the guard band, conduct field tests, bring in your engineers, and present a use case that will work.²

As for the other band plan issues? We need to deliberate further. One question is whether to vary the band plan in each economic area, regionally, or not at all. At this point, I’m skeptical that a market-by-market band plan will work. The co-channel interference problem appears too difficult to overcome. On the other hand, a regional band plan might work. In that plan, paired spectrum would be the same across the nation, but the amount of supplemental downlink spectrum could vary on a regional basis. I hope stakeholders will let us know soon whether such a band plan is feasible.

Moving on to the question of auction design, two issues have jumped out at me. *First*, if we want this auction to be a success, broadcasters must come to the table. *Second*, if we want to respect Congressional intent, we’ll need to be conscious of how auction design affects net revenues.

On the first point, we cannot deter broadcaster participation in the auction with a scheme of complicated reserve prices. Right now, I’m not yet convinced that we even need to have any reserve prices for broadcasters. My preference is for prices to be determined by the market, rather than set by fiat. To the greatest extent possible, we should rely on the auction itself to weed out patently unreasonable bids.

But if we do establish “initial offers” (to use the terminology of a descending clock auction), they need to be high enough to encourage participation and they have to be based on relevant criteria. The word “relevant” is important here. The incentive auction is about purchasing spectrum, or more specifically interference rights. It is not about buying broadcast stations. As a result, reserve prices should not depend on the value of a broadcaster’s business or on the population it serves.

To be sure, I can understand the impulse to set restrictive reserve prices. If the reverse auction yields a big payday for the owner of a struggling broadcast station, the Commission might get some bad press. And at first glance, one more dollar paid out to broadcasters might be seen one less dollar of

¹ *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, GN Docket No. 12-268, Notice of Proposed Rulemaking, 27 FCC Rcd 12357, 12547 (2012) (Statement of Chairman Julius Genachowski), available at <http://go.usa.gov/TJd3>.

² See, e.g., Qualcomm, “FCC 600 MHz Band Technical Discussion,” *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, GN Docket No. 12-268, Ex Parte Presentation (May 2, 2013), available at <http://go.usa.gov/Thb9>.

revenue for the federal government. But we shouldn't be penny-wise and pound-foolish. In repacking, as in real estate, it's location, location, location. If accepting a large bid from a Scranton station allows us to clear additional spectrum throughout the Northeast Corridor, we'll be more likely to have a successful incentive auction, one that is good for consumers and the U.S. Treasury.

On the second point, regarding net revenues, Congress made clear that the incentive auction isn't just about broadcasters and wireless carriers. It's also about funding national priorities, such as the First Responder Network Authority, deficit reduction, and Next-Generation 911 implementation. *Jerry Maguire* made the line "Show me the money!" a part of our lingo, but Congress made it the law.

Part of the task of maximizing net revenues requires a sound auction design. Last September, I voiced my concern that our proposed auction design could fail to produce any net revenues. That concern has only grown over time. I hope that we think long and hard about structuring the auction in such a way that there is enough money on the table when the gavel strikes.

Another part of the task of maximizing net revenues means letting all the wireless players participate in the auction and letting market forces sort out who wins and who loses. A recent study found that limiting participation may result in a 40 percent loss in gross auction revenues, or about \$12 billion.³ And this loss has a compounding effect: Because how much we clear depends on the revenues we raise, less revenue means less spectrum cleared, which in turn means even less revenue. It's a vicious circle that will hurt the U.S. Treasury and reduce the amount of spectrum we can devote to mobile broadband.

Next: repacking. Much has been said and written about the updated OET-69 software that the Office of Engineering and Technology put out for comment earlier this year. This is an important topic, but not one we can afford to spend much more time on. That's why I've encouraged the broadcast and wireless industries to come together and work on a mutually acceptable compromise.

My office has asked broadcasters not to stand in the way of updates that would allow our software to work on modern computer systems, run more quickly, and perform the type of analysis that will be necessary to support the incentive auction. Likewise, I see no reason why we shouldn't update our software to include the most recent census data.

My office has also suggested to wireless carriers that now is the time to focus on the changes that we need to make as opposed to every change you might like to make. Fighting over each tweak to the software won't serve anyone well. If the wireless and broadcast industries approach this task with the same cooperative spirit they have shown in working on the 600 MHz band plan, I'm confident that they can get this done.

I've also heard from all quarters the same question: Where's the repacking software? This is the software that will determine the feasibility of hitting a spectrum clearing target given broadcaster participation. It's the software that will find a spot for every broadcaster that chooses not to participate. And it's the software that, hopefully, will tell us the cheapest way to clear our spectrum target given the bids. Carriers and broadcasters have said, and I agree, that stakeholders need an adequate opportunity to review and comment on this software in the near term. So completing our development of that software and releasing it in the coming months needs to be one of our top priorities, if not the top priority. In certain ways, repacking is the linchpin of the entire incentive auction.

Finally, I'd be remiss if I didn't mention international coordination, specifically, issues related to the Canadian and Mexican borders. Today, many people think that Northeastern markets, such as New York City, Philadelphia, and Washington, pose the greatest obstacle to a successful incentive auction.

³ Robert J. Shapiro, Douglas Holtz-Eakin, and Coleman Bazelon, *The Economic Implications of Restricting Spectrum Purchases in the Incentive Auctions* (Apr. 30, 2013), available at http://www.gcbpp.org/files/Academic_Papers/EconImplicationsSpectrumAuctions.pdf.

But that's not my view at the moment. It's border markets, such as Detroit, Buffalo, Seattle, and San Diego, that worry me the most. We can always offer a higher price within our borders, but we can't do so internationally. And I tend to doubt that annexing foreign territory to solve this problem would be a valid exercise of our ancillary authority. So if the incentive auction is going to be a success, coordination and negotiation with our friends in Canada and Mexico is critical. I'm pleased that some discussions have already started. We need to intensify these efforts. The problems that we face are too difficult to be papered over by press releases. We must have sustained, high-level engagement, and if asked by Chairwoman Clyburn or any future leader of the Commission, I stand ready to do whatever I can to help advance this process along.

With all that, I've probably provided enough grist for the mill. I'm eager to hear what our distinguished panelists have to say. During my time at the Commission, I've spent more time discussing the broadcast incentive auction than any other subject. And I can say that I've learned far more from listening than from talking. So if you have proposals for a better 600 MHz band plan, a better auction design, or a better repacking methodology, let me know. If you can figure out a way to distill your idea to 140 characters or less, you can even reach me on Twitter at @ajitpaifcc.

Thank you very much for the opportunity to share my thoughts this afternoon, and I look forward to continuing this conversation in the weeks and months ahead.