

**STATEMENT OF  
COMMISSIONER AJIT PAI,  
APPROVING IN PART AND CONCURRING IN PART**

Re: *Amendment of Part 15 of the Commission's Rules for Unlicensed Operations in the Television Bands, Repurposed 600 MHz Band, 600 MHz Guard Bands and Duplex Gap, and Channel 37*, ET Docket No. 14-165; *Amendment of Part 74 of the Commission's Rules for Low Power Auxiliary Stations in the Repurposed 600 MHz Band and 600 MHz Duplex Gap; Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, GN Docket No. 12-268.

In the Spectrum Act, Congress authorized the FCC to put the 600 MHz guard bands to productive, unlicensed use.<sup>1</sup> At the same time, it prohibited the Commission from permitting any such use that would cause harmful interference to licensed services.<sup>2</sup>

Congress did not impose this limitation out of animosity towards unlicensed operations. Rather, as the record here confirms, impairing licensed spectrum drives down auction revenues, reduces the overall amount of spectrum available for consumer use, and threatens the success of the incentive auction, none of which is in anyone's interest. Indeed, the record shows that even a 5% loss of spectrum capacity due to interference from guard band operations will lower spectrum values by 9%.<sup>3</sup> A 20% impairment will lower them by 43%.<sup>4</sup>

And in some cases, impairing licensed spectrum can carry much higher costs. Take, for example, the Wireless Medical Telemetry Service (WMTS), which is a licensed service that operates, in part, on Channel 37 in the 600 MHz band. WMTS is used in hospitals and health care institutions across the country, including at Labette Health in Parsons, Kansas, where my parents work. Hospitals use WMTS for a variety of critical functions, from tracking the vital signs of patients undergoing cardiac rehab to monitoring emergency room trauma and fetal activity. In short, WMTS can involve matters of life and death. Harmful interference could have serious and immediate consequences.

During this proceeding, hundreds of health care institutions told us that the Commission's protection zones would not be adequate to prevent unlicensed white space devices from causing harmful interference to WMTS. Their concern is understandable. Among other things, the FCC's technical analysis is based on the assumption that hospitals with WMTS devices are no more than three stories tall. But the record shows that a majority of hospitals with WMTS devices are taller than that.<sup>5</sup>

The WMTS community is not alone in its worry. A bipartisan group of nearly 20 members of the U.S. Senate and House of Representatives recently weighed in on this issue. They noted that the record "includes the results of real-world testing at three different hospitals demonstrating that interference to WMTS systems will be caused by a TVWS [TV white space] device operating at the power-levels and distances proposed by the Commission."<sup>6</sup>

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<sup>1</sup> Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, 126 Stat. 156, Title VI § 6407(d) (2012) ("The Commission may permit the use of such guard bands for unlicensed use.") (Spectrum Act).

<sup>2</sup> Spectrum Act § 6407(e) ("The Commission may not permit any use of a guard band that the Commission determines would cause harmful interference to licensed services.").

<sup>3</sup> See, e.g., Coleman Bazelon, Charles Jackson, Dorothy Robyn, *Unlicensed Operations in the 600 MHz Band: Fatally Flawed Twice Over* at iii, 32 (Feb. 25, 2015), available at <http://go.usa.gov/3AhxA>.

<sup>4</sup> *Id.*

<sup>5</sup> See *Order* at para. 210.

<sup>6</sup> See Letter from Hon. Greg Walden *et al.* to Hon. Tom Wheeler, Chairman, FCC (July 31, 2015); see also Letter from Hon. Tammy Baldwin *et al.* to Hon. Tom Wheeler, Chairman, FCC (Aug. 5, 2015) ("Hospitals and

I share this concern. Accordingly, I proposed that whenever a WMTS facility determines that the FCC's protection zones are not adequate to prevent harmful interference, those zones will automatically be extended up to three times their current size upon the licensee's filing of a waiver request. Those extended zones will remain in place until the FCC can adjudicate the merits of the request. I am grateful to my colleagues for accommodating my suggestion. With this mechanism in place, the *Order* now creates the right incentives for both the WMTS and unlicensed communities to negotiate in good faith and reach a consensus-based approach to sharing the spectrum while at the same time protecting WMTS from harmful interference. In particular, this change should help safeguard patients in hospitals that are more than three stories tall. I am voting to approve this part of the *Order* and look forward to monitoring the parties' progress toward reaching a workable solution.

Now, Channel 37 didn't present the only difficult engineering issue. More broadly, FCC staff—including our engineers in the Office of Engineering and Technology—were tasked with crafting rules for unlicensed operations that would prevent the guard bands from laying fallow while also protecting licensed services from harmful interference, as Congress required in the Spectrum Act. This was not easy, to say the least.

For my part, I would have struck a different balance than the *Order* does. As I have said throughout this proceeding, I am a big proponent of making more spectrum available for unlicensed use. But we must convince more than just ourselves that unlicensed operations will not cause harmful interference to licensed services. For the incentive auction to succeed, we must make sure that bidders enter the auction confident that they are not going to be stuck with spectrum that is impaired by guard band operations.<sup>7</sup>

I am not entirely convinced that we got that last part right. Many have argued that the Commission's technical analysis is too optimistic, to put it mildly. They say that our analysis is predicated on 600 MHz devices performing orders of magnitude better than industry standards, that it uses unrealistic assumptions about the separation distances between licensed and unlicensed devices, and that it adds path losses that are not relevant when talking about devices that will be located only one meter or less apart.<sup>8</sup> These are credible objections.

But in the end, I am voting to concur with this part of the *Order* because I believe there's been meaningful progress on this issue, and I appreciate the efforts that the Chairman's Office and OET made to try to accommodate my concerns.

In particular, the *Order* now provides that if a licensed wireless provider believes that an unlicensed device is causing harmful interference to its licensed service, the relevant parties must work collaboratively and in good faith with the licensed provider to address the issue.<sup>9</sup> Our hope is that questions of interference can be resolved by the relevant parties on a voluntary and expedited basis, so that the licensed provider won't necessarily have to ask for, and then wait for, the FCC to act.

In addition, the *Order* now makes clear that for unlicensed devices, compliance with our Part 15 technical rules does not create blanket immunity from non-interference requirements. Consistent with the

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professionals rely on WMTS every second of every day to keep patients alive and safe. It is essential that WMTS devices can continue to operate without interferences from TVWS devices.”).

<sup>7</sup> This is particularly important for smaller providers and new entrants since they may not have other spectrum to use if they are affected by harmful interference within the 600 MHz band. *But see Order* at note 380 (noting that “wireless handsets are typically multi-band devices that can operate in another band in the event interference occurs”).

<sup>8</sup> *See, e.g.,* CTIA Comments at 11; TIA Comments at 4; Qualcomm Comments at 4; *see also* Consumer Electronics Association, Technical Paper, “Protection Bands and Potential Interference at 600 MHz,” GN Docket No. 12-268 (Dec. 16, 2013), *available at* <http://go.usa.gov/3s2DA>.

<sup>9</sup> *See Order* at para. 133.

Spectrum Act's provisions, they cannot cause harmful interference to licensed services. Although these aren't perfect or complete solutions, they are important improvements.

I also appreciate my colleagues' willingness to support my request that we not prejudge the pending commence operations proceeding.<sup>10</sup> Instead of deciding here how we will define the geographic areas around which 600 MHz licensees will be deemed to have "commenced operations"—a triggering event that determines whether unlicensed operations are allowed in a licensed area and an issue which has generated much disagreement—the *Order* properly defers this question to our upcoming proceeding. That's the right call.

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Finally, it's important to put our labors in this proceeding in perspective. We have put substantial effort into finding 12, or if we're lucky, 18 MHz of spectrum in the 600 MHz band for unlicensed use. At the same time, Congress in 2012 opened up much more technically promising vistas in the 5 GHz band. I've been calling on the FCC to make up to 195 MHz of 5 GHz spectrum available for unlicensed use since then,<sup>11</sup> and the FCC has been considering the matter for two and a half years.<sup>12</sup> That band is ready to unleash the next Wi-Fi revolution; the 802.11ac technical standard already exists, and its wide, contiguous blocks allow 1 gigabit per second connectivity or more.

I hope that we carry the resolve we've shown in today's *Order* over to the 5 GHz proceeding. Whatever the future potential of 600 MHz unlicensed operations, 5 GHz spectrum is here, now, and ready to empower the next generation of entrepreneurs and wireless consumers.

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<sup>10</sup> See *Comment Sought on Defining Commencement of Operations in the 600 MHz Band*, GN Docket No. 12-268, Public Notice, 30 FCC Rcd 3200 (2015).

<sup>11</sup> See, e.g., Remarks of Commissioner Ajit Pai at CTIA's MobileCon, <http://go.usa.gov/4tkA> (Oct. 10, 2012); Statement of Commissioner Ajit Pai, Hearing before the Subcommittee on Communications and Technology of the U.S. House of Representatives Committee on Energy and Commerce, <http://go.usa.gov/4t8Q> (Dec. 12, 2012); see also Remarks of FCC Commissioner Ajit Pai, "Looking Back and Looking Ahead: The FCC and the Path to the Digital Economy," <http://go.usa.gov/WRj4> (July 25, 2013); Commissioner Ajit Pai Applauds U.S. House of Representatives Committee on Energy and Commerce for Highlighting Promise of 5 GHz Band for Unlicensed Use and Calls for Prompt FCC Action to Facilitate Greater Use of 5 GHz Band, <http://go.usa.gov/3WySC> (Nov. 13, 2013); Remarks of FCC Commissioner Ajit Pai at WISPAPALOOZA, <http://go.usa.gov/3WySF> (Oct. 15, 2014).

<sup>12</sup> See *Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band*, ET Docket No. 13-49, Notice of Proposed Rulemaking, 28 FCC Rcd 1769 (2013).