

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Amendment of Parts 73 and 74 of the	)	MB Docket No. 03-185
Commission’s Rules to Establish Rules for Digital	)	
Low Power Television and Television Translator	)	
Stations	)	
	)	
Expanding the Economic and Innovation	)	GN Docket No. 12-268
Opportunities of Spectrum Through Incentive	)	
Auctions	)	
	)	
Amendment of Part 15 of the Commission’s Rules	)	ET Docket No. 14-175
to Eliminate the Analog Tuner Requirement	)	
To: The Commission		

**COMMENTS OF  
THE WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION**

The Wireless Internet Service Providers Association (“WISPA”), pursuant to Sections 1.415 and 1.419 of the Commission’s Rules, hereby comments on certain issues presented by the Third Notice of Proposed Rulemaking (“*Third NPRM*”) in the above-captioned proceedings.<sup>1</sup> In sum, and as further discussed below, WISPA favors those proposals and processes that will result in the efficient use of the TV band spectrum by licensed and unlicensed users before, during and after the incentive auction.

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<sup>1</sup> See *Amendment of Parts 73 and 74 of the Commission’s Rules to Establish Rules for Digital Low Power Television and Television Translator Stations; Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions; Amendment of Part 15 of the Commission’s Rules to Eliminate the Analog Tuner Requirement*, MB Docket No. 03-185, GN Docket No. 12-268 and ET Docket No. 14-175, Third Notice of Proposed Rulemaking, FCC 14-151 (rel. Oct. 10, 2014 (“*Third NPRM*”). The Media Bureau (“Bureau”) extended the Comment and Reply Comment deadlines to January 12, 2015 and January 26, 2015, respectively. See *Order*, DA 14-1727 (rel. Dec. 1, 2014).

## Background

WISPA is the trade association that represents the interests of wireless Internet service providers (“WISPs”) that provide fixed IP-based broadband services to consumers, businesses, first responders and anchor institutions across the country. WISPA estimates that more than 3,000 WISPs provide fixed wireless broadband services to more than 3,000,000 people in residences, businesses, hospitals, public safety locations and educational facilities. WISPs primarily rely on the 900 MHz, 2.4 GHz and 5 GHz unlicensed frequencies authorized under Part 15 as well as the Part 90 non-exclusive “lightly licensed” 3650-3700 MHz band. In addition, WISPs are among the first to deploy broadband services on unlicensed TV white space spectrum, which offers significant advantages over the other unlicensed bands because it is not yet congested and has superior propagation characteristics that enable WISPs to reduce their infrastructure costs.

WISPA’s objective is to ensure that WISPs and others will retain useable access to a sufficient amount of contiguous TV white space spectrum for fixed broadband service. This effort encompasses a number of different proceedings and a number of different issues,<sup>2</sup> but the key point is, and has been since before the incentive auction proceeding was initiated, the spectrally efficient use of the TV band.<sup>3</sup> To that end, WISPA comments on those issues raised in the *Third NPRM* that bear on the interests of unlicensed TV band users.

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<sup>2</sup> See, e.g., *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*, Notice of Proposed Rulemaking, 29 FCC Rcd 12248 (2014) (“*Part 15 NPRM*”).

<sup>3</sup> See, e.g., WISPA Petition for Reconsideration, ET Docket Nos. 04-186 and 02-380 (filed March 19, 2009); Comments of WISPA, GN Docket No. 12-268 (filed Jan. 25, 2013) (“WISPA Incentive Auction Comments”).

## Discussion

### I. THE COMMISSION SHOULD EMPHASIZE SPECTRUM EFFICIENCY IN THE DISPLACEMENT PROCESS.

The Commission indicates that “the availability of repacking and optimization software may provide a unique opportunity for the Commission to assist with the challenges displaced LPTV and TV translators face in finding new channel homes.”<sup>4</sup> It seeks comment on whether its repacking optimization software should be used to identify locations where displaced stations could be accommodated and whether the Bureau should identify specific channels. The Commission does not, however, propose to mandate new channel assignments for displaced stations, stating that this “would run counter to more than 30 years of licensing policies with respect to LPTV and TV translator stations.”<sup>5</sup>

Almost two years ago, in its initial comments, WISPA first urged the Commission to “establish parameters for displacement applications that will promote the overall goal of optimizing the remaining white space for unlicensed use. In some cases, this may mean that the Commission will identify preferred channels for which displacement applications can be filed so as to rationalize the TV band plan in a given market as a whole, and optimize the utility of white space spectrum.”<sup>6</sup> WISPA continues to believe that a spectrum plan that accommodates full power, Class A, LPTV and TV translator stations, while at the same time ensuring that the remaining unlicensed spectrum can be effectively and efficiently used, is an objective the Commission should try to achieve in every market.

To this end, WISPA supports the use of optimization software and other means to identify available channels for displaced LPTV and TV translator stations. WISPA further urges

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<sup>4</sup> *Third NPRM*, at ¶ 45.

<sup>5</sup> *Id.* at ¶ 46.

<sup>6</sup> WISPA Incentive Auction Comments, at 23.

the Bureau to make its recommendations based on factors that include not only the rights of protected stations, but also the viability of the remaining unlicensed white space spectrum under Part 15 rules. For example, higher-power fixed white space devices currently are not permitted to operate on channels that are immediately adjacent to occupied TV channels.<sup>7</sup> This means that there must be a minimum of three contiguous unoccupied TV channels in order for fixed devices to operate on only one channel (the middle one).<sup>8</sup> In addition, Sections 15.711 and 15.712 establish distance separation, antenna height and other interference avoidance and protection requirements.<sup>9</sup>

By failing to take these constraints into account, the TV white space channels available for fixed use following the repacking and displacement processes could be artificially limited or rendered practically unuseable. As one example, a band plan in a market that does not contain contiguous white space channels could not be used for higher-power fixed operations, and may lay fallow for many years. As WISPA previously stated, “[a]llowing displacement to any available channel could have the effect of precluding TV bands devices from operating, a result the Commission should prevent wherever possible.”<sup>10</sup>

Irrespective of the Part 15 rules that ultimately will apply, the Commission should optimize the utility of the vacant TV band spectrum for unlicensed spectrum to the fullest extent possible, consistent with the rights of protected stations. The Commission should go beyond merely identifying and encouraging channels for displacement, and should instead designate available channels based on optimization software that considers the operating and interference

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<sup>7</sup> See *Part 15 NPRM*, at ¶ 33.

<sup>8</sup> See *id.*

<sup>9</sup> WISPA notes that the Commission is proposing extensive changes to the white space rules in the *Part 15 NPRM*, including relaxing the adjacent-channel rules, allowing increased antenna heights and permitting increased power. WISPA strongly supports many of these proposed changes and anticipates filing comments in that proceeding.

<sup>10</sup> WISPA Incentive Auction Comments, at 23.

protection rules for TV white space devices, as well as the interests of LPTV and TV translator stations. The rules proposed in the *Part 15 NPRM* will, if adopted, make available more useable unlicensed spectrum, but the Commission should aspire to maximize spectral efficiency and utility for licensed and unlicensed users through rules and practices that consider spectral efficiency for licensed and unlicensed users.

One approach that may have merit is to incorporate the concept of “spectrum neighborhoods” in identifying and assigning displacement channels. Under this approach, spectrum that would be unavailable for higher-power fixed white space use (for example, due to adjacent-channel restrictions) could be limited by ensuring that TV stations do not occupy channels in an inefficient manner, for example by interleaving TV channels with a single six-megahertz channel in between. The following table compares channelization results in a theoretical market (with occupied TV channels in gray and available unlicensed white space spectrum in white):

	Channel	Channel	Channel	Channel	Channel	Channel	Channel	Channel
Inefficient	<b>21</b>	22	<b>23</b>	24	<b>25</b>	26	<b>27</b>	28
Optimized	21	22	23	24	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>

In the “inefficient” scenario, no white space spectrum would be available for unlicensed use, whether under the existing rules or under the rules proposed in the *Part 15 NPRM*. In the “Optimized” scenario, the same number of TV channels could be accommodated, but three channels – Channels 21, 22 and 23 – could be used for higher-power fixed white space use, with Channel 24 (or a portion thereof) serving as adjacent-channel protection to TV Channel 25. This result of course presumes that coverage and interference protection are not compromised through displacement, and WISPA understands that engineering and other issues may preclude a perfect

result in every market. But an optimized channel plan predicated on the maximum utility of the TV band for licensed *and* unlicensed use should be the Commission's overarching objective.

**II. THE COMMISSION SHOULD PERMIT LPTV AND TV TRANSLATOR STATIONS TO VOLUNTARILY SHARE CHANNELS WITH OTHER TV STATIONS.**

The Commission tentatively concludes that it should adopt rules permitting channel sharing by and between LPTV and TV translator stations on a voluntary basis.<sup>11</sup> The Commission acknowledges WISPA's prior support for this position, stating that "channel sharing may make operations more cost-effective for LPTV and TV translator stations . . . may help to mitigate the impact of the auction and repacking process [and] free up valuable channels for use by other displaced stations."<sup>12</sup> WISPA reiterates its support for voluntary channel sharing among LPTV and TV translator stations and other LPTV, TV translator, full power and Class A television stations for all of the policy reasons cited by the Commission. In particular, channel sharing will promote more efficient use of spectrum and, in some locations, make available more spectrum for unlicensed use.

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<sup>11</sup> *Third NPRM*, at ¶ 13.

<sup>12</sup> *Id.* at ¶ 14 (footnotes omitted). *See also* WISPA Incentive Auction Comments, at 22.

## **Conclusion**

The Commission has an opportunity through rule changes and displacement processes to enhance the overall utility of the TV band for both licensed and unlicensed users. Two important steps should be taken. First, the Commission's process should, wherever possible, incorporate principles of spectral efficiency that make available the maximum amount of useable spectrum for fixed unlicensed use. Second, the Commission should adopt its LPTV and TV translator channel-sharing proposals.

Respectfully submitted,

### **WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION**

January 12, 2015

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