

**Before the  
Federal Communications Commission  
Washington, DC 20554**

In the Matter of )  
 )  
Expanding the Economic and Innovation ) GN Docket No. 12-268  
Opportunities of Spectrum Through Incentive )  
Auctions )

To: The Commission

**REPLY COMMENTS OF  
OPEN TECHNOLOGY INSTITUTE AT NEW AMERICA  
AND PUBLIC KNOWLEDGE**

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**Table of Contents**

I. INTRODUCTION AND SUMMARY ..... 1

II. THE COMMISSION’S PROPOSAL TO DEFINE “COMMENCEMENT OF OPERATIONS” BASED ON ACTUAL DEPLOYMENT AREAS IS THE CORRECT POLICY AND HAS STRONG SUPPORT IN THE RECORD ..... 4

III. THE COMMISSION’S PROPOSAL, INCLUDING A NOTIFICATION OBLIGATION BASED ON ACTUAL DEPLOYMENTS, IMPOSES NO UNDUE BURDENS ON LICENSEES AND IS JUSTIFIED TO PROMOTE SPECTRUM EFFICIENCY, PUBLIC ACCESS AND INNOVATION ..... 7

IV. PROPOSALS TO PRECLUDE UNLICENSED USE OF VACANT SPECTRUM IF A LICENSEE TRANSMITS A SIGNAL ANYWHERE IN A PARTIAL ECONOMIC AREA (PEA) WOULD UNDERMINE SPECTRUM EFFICIENCY, RURAL BROADBAND AND A ROBUST MARKET FOR WSDs ..... 10

V. SPECTRUM LICENSES DO NOT CONFER ‘EXCLUSIVE’ RIGHTS ON ANY USER AND NO PROVISION OF 2012 SPECTRUM ACT LIMITS THE COMMISSION’S AUTHORITY TO CONDITION LICENSES WITH OBLIGATIONS TO FACILITATE FULL AND EFFICIENT USE OF A BAND... 14

VI. CONCLUSION..... 19

## I. INTRODUCTION AND SUMMARY

The Open Technology Institute at New America (“OTI”) and Public Knowledge (“PK”) hereby reply to certain of the comments filed in response to the Commission’s *Public Notice* on how it should define the term “commence operations” during the transition of the 600 MHz band from broadcast television and secondary and unlicensed uses, including television white space (“TVWS”) devices, to licensed wireless communications use.<sup>1</sup>

OTI and PK strongly supported the Commission’s decision in last year’s *Incentive Auction Report & Order* to permit white space devices (WSDs) to continue operating in the 600 MHz band post-auction until such time as the licensee gives notice that it will “commence operations” in that local area.<sup>2</sup> As the Commission recognized, due to the repurposing of broadcast spectrum for auction and the repacking of broadcast licensees, there will be precious little spectrum left to nurture a national market for low-band unlicensed devices and services – particularly connectivity for personal/portable devices (e.g., the 802.11af standard) that require a minimum of 18 to 24 MHz in *every* market nationwide. Ongoing, temporary access to unused 600 MHz spectrum on a localized basis is not only the most efficient spectrum policy – and does no harm to licensees, thanks to the TV Bands Database system – but it also may prove essential to the viability of unlicensed operations.

In the past, auction delays and 10-year buildout requirements based on population, however meritorious or unavoidable, have proven to be a recipe for leaving spectrum capacity

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<sup>1</sup> See *Public Notice*, Comment Sought on Defining Commencement of Operations in the 600 MHz Band, FCC 15-38, GN Docket 12-268 (released March 26, 2015) (“*Public Notice*”).

<sup>2</sup> Report and Order, *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, GN Docket No. 12-268 (2014), at ¶ 680 (“*Incentive Auction Report & Order*”); Notice of Proposed Rulemaking, *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 Gaps, and Channel 37*, ET Docket No. 14-165, 29 FCC Rcd 12248 (2014), at ¶¶ 131-144 (“*Part 15 NPRM*”).

fallow for extended periods – and particularly so in rural and other underserved areas. In this proceeding, however, the Commission correctly acknowledged there is a governance mechanism in place to ensure that unused spectrum “white space” in the 600 MHz band remains available for use – or withdrawn from use – depending on the actual operations of the primary licensee. The TV Bands Databases certified by the Commission are designed precisely to govern opportunistic access by unlicensed devices that must renew permission each 24-hour period to continue using a particular channel – a permission that the TV Bands Database can withhold when a primary licensee is ready to commence service.<sup>3</sup>

The Commission’s decision to permit continued, temporary use of unused 600 MHz spectrum post-auction is the closest thing imaginable to a spectrum efficiency “free lunch.” Thanks to the automated enforcement mechanism of the TV Bands Database, there is absolutely no downside or risk for licensees. The new 600 MHz band license holders would maintain all of their rights to *use* the public resource – they would only lose the option to warehouse it. The reporting “burden” on licensed carriers is also minimal considering that carriers will necessarily have the required information readily at hand as part of their process of preparing link budgets, deploying base stations, and preparing for site activation and commissioning tests prior to commencing commercial service.

It is also important to recognize that the Commission’s proposal simply maintains the status quo. Today the majority of 600 MHz spectrum is not used by broadcast licensees and is available for unlicensed use. Opportunistic, unlicensed access to fallow 600 MHz spectrum is the default. Post-auction, during and after the shut down or relocation of broadcast stations, the TV Bands Databases will continue to protect licensed operations from interference on an automated,

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<sup>3</sup> *Incentive Auction Report & Order*, ¶ 680 (“Since TVWS devices can operate only on channels identified in the TV bands databases, these databases can serve to ensure that unlicensed operations will no longer occur on a channel on which a licensee has commenced service.”)

day-to-day basis. Consumers will typically not even be aware that frequency blocks are subtracted from the list of available channels, depending on the status of the primary licensee, any more than they would be aware of the automated updating of available channels if their device moves from one media market to another.

OTI and PK commend the Commission for proposing a definition of “commencement of operations” that strikes an appropriate balance between authorizing the productive use of otherwise fallow spectrum capacity and ensuring that the TV Bands Database system will prohibit unlicensed operations at the time the licensee “begins site activation and commissioning tests, using permanent base station equipment and permanent antenna or tower locations.” There is strong support in the record for the Commission’s proposal, which will ensure that spectrum that might otherwise sit idle can be used at least temporarily for rural broadband and other productive purposes. The proposed approach also provides an additional incentive for wireless licensees to deploy more rapidly on their newly acquired spectrum.

Contrary to the claims of certain mobile carrier interests, the “burden” on licensees (to notify one of the TV Bands Database administrators) would be *de minimus* and not involve collecting any data the operator does not already have readily at hand for their own purposes. Both the timing and the form of the notification described in the Commission’s proposal minimizes the burden on licensees. With clear ground rules and the TV Bands Database as an automatic enforcement mechanism, the operations of licensed carriers would not be impacted in the slightest.

There is strong support for the Commission’s proposal in the *Public Notice* that a licensee’s notification that it will commence operations would only “cover the area served by the licensee’s commercial service infrastructure deployment.” Partial Economic Areas (PEAs) can

be larger than entire states and include multiple cities, as well as regions separated by mountains or large bodies of water. Given the capability of the TV Bands Database system to enforce exclusion zones in discrete geographic areas, there is no strong reason to use PEAs as the geographic foundation for excluding WSDs from access to underutilized spectrum.

Finally, contrary to the claims of mobile carrier interests, nothing in the 2012 statute authorizing the incentive auction prohibits underlays or continued unlicensed access to the unused 600 MHz spectrum in a manner that does not cause harmful interference to licensees. There is, however, language expressly stating that the Spectrum Act in no way diminishes the FCC's pre-existing authority. The Spectrum Act confirms that nothing in Section 6404 "affects any authority the Commission has *to adopt and enforce rules of general applicability . . .*"

## **II. THE COMMISSION'S PROPOSAL TO DEFINE "COMMENCEMENT OF OPERATIONS" BASED ON ACTUAL DEPLOYMENT AREAS IS THE CORRECT POLICY AND HAS STRONG SUPPORT IN THE RECORD**

OTI and PK commend the Commission for proposing a definition of "commencement of operations" that strikes an appropriate balance between authorizing the productive use of otherwise fallow spectrum capacity and ensuring that the TV Bands Database system will prohibit unlicensed operations at the time the licensee "begins site activation and commissioning tests, using permanent base station equipment and permanent antenna or tower locations."<sup>4</sup> The record in this proceeding shows strong support for the Commission's well-balanced proposal. Indeed, in addition to comments filed in response to this *Public Notice*, the incentive auction docket also includes support from additional parties for the Commission's approach in comments filed in response to the *Part 15 NPRM*.<sup>5</sup>

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<sup>4</sup> *Public Notice*, ¶ 6.

<sup>5</sup> See, e.g., Comments of Wi-Fi Alliance, *Part 15 NPRM*, ET Docket No. 14-165 (February 4, 2015), at 34-35; Comments of Spectrum Bridge, *Part 15 NPRM*, ET Docket No. 14-165 (February 4, 2015), at 6;

OTI and PK agree with Google’s observation that the Commission’s “approach to defining commencement of operations guarantees that licensees receive uncompromised access when they need to prepare for operations, while maximizing use of the spectrum before then.”<sup>6</sup> Similarly, our groups concur with Microsoft’s view that the Commission’s proposal “will ensure, in keeping with the ‘use-it-or-share-it’ approach, that valuable spectrum gets put to use and does not sit idle for potentially an extended period of time.”<sup>7</sup> OTI and PK also agree with the Dynamic Spectrum Alliance view that the Commission’s approach “ensures that a considerable amount of 600 MHz spectrum nationally will not lay fallow during the transition period and provides an additional incentive for a wireless licensee to build out its newly acquired spectrum.”<sup>8</sup>

OTI and PK agree as well with WISPA’s suggestion that “the only element missing from the Commission’s proposal is [a] temporal limitation . . . [T]he initiation of site commissioning testing should be closely tied to the target date for the inauguration of actual licensed service to the public.”<sup>9</sup> The Commission should require the licensee provide notice not only of the date of site commissioning testing, as the Commission proposes, but also the date the licensee expects to *commence actual service to the public*. Because the testing phase itself could cause the timing of actual service to change, the licensee should be able to update this projected date for commencing actual service after completing its testing, or at any time. We recommend that the

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*see also* Comments of WISPA, *Part 15 NPRM*, ET Docket No. 14-165 (February 4, 2015), at 16-17; Comments of Microsoft, *Part 15 NPRM*, ET Docket No. 14-165 (February 4, 2015), at 48-49; Reply Comments of Open Technology Institute and Public Knowledge, *Part 15 NPRM*, ET Docket No. 14-165 (February 25, 2015), at 22-32.

<sup>6</sup> Comments of Google Inc., *Public Notice*, FCC 15-38, GN Docket 12-268 (May 1, 2015), at 3.

<sup>7</sup> Comments of Microsoft, *Public Notice*, FCC 15-38, GN Docket 12-268 (May 1, 2015) at 1-2.

<sup>8</sup> Comments of Dynamic Spectrum Alliance, *Public Notice*, FCC 15-38, GN Docket 12-268 (May 1, 2015) at 1.

<sup>9</sup> Comments of Wireless Internet Service Providers Association, *Public Notice*, FCC 15-38, GN Docket 12-268 (May 1, 2015) (“Comments of WISPA”) at 4.

Commission supplement its *Public Notice* proposal by providing that the TV Bands Database should not preclude unlicensed use of the spectrum within that local area more than 30 days prior to the date the carrier intends to commence actual service, except to accommodate the licensee’s testing activities.

This clarification could also address the legitimate concern expressed by AT&T that licensees should not be overly constrained from conducting *pre-deployment testing* in particular areas, during a discrete time period, free from the complications or risk of harmful interference from unlicensed operations.<sup>10</sup> To address this need, OTI and PK recommend that the Commission accord licensees the ability to notify a TV Bands Database, even on short notice, about specific dates and times during the *pre-notification* period when the licensee needs to test or operate prior to commencing regular, ongoing commercial operations.<sup>11</sup> If a licensee needs the band clear in a local area for pre-deployment testing, or any other legitimate purpose, the Commission should permit the licensee to make a reservation in the TV Bands Database for that discrete time period and coverage area, just as licensed wireless microphone operators can do today, and immediately exclude opportunistic use at the places and times needed.<sup>12</sup> In short, although the TV Bands Database can easily accommodate “reservations” for legitimate testing by licensees pre-deployment, there is similarly no reason to preclude continued unlicensed use of the spectrum during any extended period (e.g., more than 30 days) between carrier notification and commencement of actual service.

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<sup>10</sup> Comments of AT&T, *Public Notice*, FCC 15-38, GN Docket 12-268 (May 1, 2015) (Comments of AT&T”), at 8.

<sup>11</sup> See Comments of the Public Interest Spectrum Coalition, Docket No. 12-268, *et al.* (Jan. 25, 2013) (“Comments of PISC”), at 59-60.

<sup>12</sup> See Comments of PISC at 60. Accord Comments of Mobile Future, *Public Notice*, FCC 15-38, GN Docket 12-268 (May 1, 2015), at 5 (“Commission must adopt a definition of ‘commences operations’ that protects licensees from harmful interference during the initial and testing phases of operations”).

### **III. THE COMMISSION’S PROPOSAL, INCLUDING A NOTIFICATION OBLIGATION BASED ON ACTUAL DEPLOYMENTS, IMPOSES NO UNDUE BURDENS ON LICENSEES AND IS JUSTIFIED TO PROMOTE SPECTRUM EFFICIENCY, PUBLIC ACCESS AND INNOVATION**

Not surprisingly, AT&T and CTIA, the wireless industry association, managed to find reasons to oppose the Commission’s well-balanced proposal.

In its comments, CTIA proposes that the Commission define “commence operations” to mean “the moment when a wireless carrier initially transmits on its licensed spectrum, which will likely be for the purposes of pre-service deployment testing.”<sup>13</sup> CTIA argues that rather than require that licensees actually deploy permanent infrastructure as a prerequisite to precluding opportunistic unlicensed use across the entire PEA, the Commission should at most require that “the relevant equipment would be portable test transmitters and drive test equipment.” In other words, CTIA argues that licensees should have the option to warehouse an entire PEA and leave it fallow simply by doing a “drive by” test in a single location from the back of a truck or with a portable transmitter. Although AT&T relies primarily on the argument that the Commission’s decision in the *Incentive Auction Report & Order* to permit opportunistic access is “antithetical to the license rights the Commission proposes to sell in the 600 MHz auction” and is “not contemplate[d]” by the 2012 Spectrum Act – arguments addressed in the final section below – the company also complains that the Commission’s “fragmented approach to clearing licensees’ spectrum would be overly complex and impose substantial administrative burdens on wireless licensees.”<sup>14</sup>

In reality, the “burden” on licensees (to notify one of the TV Bands Database administrators) would be *de minimus* and not involve collecting any data the operator does not

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<sup>13</sup> Comments of CTIA – The Wireless Association, *Public Notice*, FCC 15-38, GN Docket 12-268 (May 1, 2015) (“Comments of CTIA”) at 6.

<sup>14</sup> Comments of AT&T at 9.

already have readily at hand for their own purposes. In fact, both the timing and the form of the notification described in the Commission’s proposal minimizes the burden on licensees. First, licensees need only notify one of the TV Bands Database providers, each of which will presumably make available a streamlined web-based format, similar to what is used by licensed wireless microphone operators to reserve White Space channels.

Second, by tying the notification to site commissioning tests, the Commission has moved the timing sufficiently close to the commencement of actual commercial service that the licensee will necessarily have all the required information in hand as a natural consequence of its own buildout activities. Licensed carriers will obviously generate the information required by the Commission as part of their process of preparing link budgets, siting and deploying base stations, testing and determining when they can commence commercial service. And clearly the carriers know their own buildout, testing and commercial rollout schedule far in advance of the time the Commission proposes that they notify the TV Bands Database.

In comments filed in response to the *Part 15 NPRM*, Spectrum Bridge, a certified TV Bands Database administrator, explained that “a 600 MHz Licensee can use readily available GIS tools to generate a polygon, which would then be uploaded to the database as part of the registration process. This will allow the Licensee to incorporate whatever details are necessary, such as its licensed PEA boundary, without involving the database administrator in the specifics.”<sup>15</sup> Mobile Future also endorsed the Commission’s approach, provided that the TV Bands Database is accurate and accounts for carrier needs for protection “during the initial and testing phases of operations.”<sup>16</sup>

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<sup>15</sup> Comments of Spectrum Bridge, *Part 15 NPRM*, ET Docket No. 14-165 and GN Docket No. 12-268 at 6 (Feb. 4, 2015).

<sup>16</sup> Comments of Mobile Future, *Part 15 NPRM*, ET Docket No. 14-165 and GN Docket No. 12-268 at 5 (Feb. 4, 2015) (“administrators should update the white spaces database when carriers begin operating on

OTI and PK have previously proposed a notification period of up to 30 days prior to commencement of commercial service, during which a licensee can check and verify that the TV Bands Database has removed permission to use the licensee’s frequency block within the protected contour of any service area. A substantial but not overly long notification period benefits both licensees and unlicensed operators, since the former will have time to verify the band is clear (e.g., by making zip code queries to one of the TVDBs) and the latter (mainly fixed wireless operators, such as WISPs) may need time to reconfigure their networks to use alternative channels.

CTIA objects that “requiring wireless carriers to provide such granular [notification] data would require the disclosure of competitive sensitive and proprietary information regarding their network deployment strategies.”<sup>17</sup> Although this is a legitimate concern, it should not be a problem here for at least two reasons. First, as WISPA states, the notification data provided to a TV Bands Database “would not be made public in its raw form, but would instead be incorporated in the TVWS database to effect preclusion of use as of the effective date by TVWS devices within the area described.”<sup>18</sup> Second, as CTIA itself observes, the Commission does not require notification prior to “site commissioning tests [which] typically take place in the late states of a deployment and after the construction and installation of network infrastructure.”<sup>19</sup> At that point – after network deployment and presumably just prior to commencement of commercial service – the fact that the TV Bands Database begins denying unlicensed devices permission to transmit on the licensee’s spectrum in that area will not reveal anything proprietary that isn’t already well known or easily discoverable. Indeed, as noted above, OTI and PK

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particular frequencies in particular PEAs to inform unlicensed operators that white spaces devices may no longer operate on that spectrum”).

<sup>17</sup> Comments of CTIA at 9.

<sup>18</sup> Comments of WISPA at 6.

<sup>19</sup> Comments of CTIA at 7.

believe the Commission could both further mitigate this concern *and* optimize the efficient use of the spectrum by requiring that if the licensee plans to commence commercial service more than 30 days after it concludes site commissioning tests, then it should provide notice of that actual date so that the spectrum can once again be made available for unlicensed use in the interim (i.e., during the period between testing and commencement of actual service).

In sum, with clear ground rules and the TV Bands Database as an automatic enforcement mechanism, the operations of licensed carriers would not be impacted in the slightest. The licensees' "burden" (to notify a TV Bands Database administrator) would be *de minimus* and not involve collecting any data carriers do not already have readily at hand. The admonition in the 2012 report and recommendations of the President's Council of Advisors on Science and Technology (PCAST) is as relevant for the 600 MHz band as it is for unused federal spectrum, to wit: "The incongruity between concern about a 'looming spectrum crisis' and the reality that only a fraction of the Nation's prime spectrum capacity is actually in use suggests the need for a new policy framework to unlock fallow bandwidth in all bands, as long as it can be done without compromising the missions of Federal users and ideally by improving spectrum availability for Federal users."<sup>20</sup>

#### **IV. PROPOSALS TO PRECLUDE UNLICENSED USE OF VACANT SPECTRUM IF A LICENSEE TRANSMITS A SIGNAL ANYWHERE IN A PARTIAL ECONOMIC AREA (PEA) WOULD UNDERMINE SPECTRUM EFFICIENCY, RURAL BROADBAND AND A ROBUST MARKET FOR WSDs**

There is strong support in the record, including by OTI and PK, for the Commission's proposal in the *Public Notice* that a licensee's notification that it will commence operations would only "cover the area served by the licensee's commercial service infrastructure

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<sup>20</sup> President's Council of Advisors on Science and Technology, *Realizing the Full Potential of Government-Held Spectrum to Spur Economic Growth* (July 2012), at 16.

deployment.”<sup>21</sup> Under this approach, “the area subject to notification” – and, therefore, to exclusion of unlicensed use – would be limited to the portion of the PEA (“such as a highway corridor”) when a carrier deploys in phases and is not commencing operations simultaneously across the entire license area.<sup>22</sup>

OTI and PK strongly agree with WISPA and other commenters taking the position that “[t]he scope of ‘commencement of operations’ within a licensed market should be limited to the actual coverage area where the new licensee is providing service.”<sup>23</sup> The Commission should require a definition and notification of the actual area served that is consistent with the *Incentive Auction Report & Order*, which suggested that “the TV bands database could include the coordinates of four corners of a polygon that corresponds to the area where the 600 MHz Band licensee has commenced service, and prohibit operation of TVWS devices on the channel(s) used by the licensee within the defined area.”<sup>24</sup> Google, a certified TV Bands Database operator, correctly observes that the “[f]ootprints of broadcasters and other protected users, such as wireless microphones, currently are represented by polygons, and protecting areas where [Part 27] operations have commenced will be equally straightforward.”<sup>25</sup>

CTIA and AT&T do not dispute the basic concept of permitting unlicensed operations to continue using the “repurposed” 600 MHz band on a temporary basis. However, in a transparent

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<sup>21</sup> *Public Notice* ¶ 6.

<sup>22</sup> *Ibid.*

<sup>23</sup> Comments of WISPA at 4. *Accord* Comments of Microsoft, *Public Notice*, FCC 15-38, GN Docket 12-268 (May 1, 2015), at 2 (“the Commission should apply the commencement of operations evaluation only in the geographic area where the . . . licensee has actually build out infrastructure for its site activation and commissioning tests . . .”); Comments of Google Inc, *Public Notice*, FCC 15-38, GN Docket 12-268 (May 1, 2015), at 4 (“Databases can protect notification areas of any size and shape, including small areas of operation.”); Comments of Dynamic Spectrum Alliance, *Public Notice*, FCC 15-38, GN Docket 12-268 (May 1, 2015), at 1 (“the areas in which the wireless licensee has commenced operations can be smaller than a licensed Partial Economic Area (PEA).”).

<sup>24</sup> *Incentive Auction Report & Order*, ¶ 680, n. 1891.

<sup>25</sup> Comments of Google Inc, *Public Notice*, FCC 15-38, GN Docket 12-268 (May 1, 2015), at 4.

attempt to effectively kill the concept, AT&T argues that if a licensee provides notice of its “intent” to commence commercial service *anywhere* in the license area, “unlicensed users should be required to vacate the entire PEA market . . . or, in any event, within 39 months of the *Channel Reassignment Public Notice*’s release.”<sup>26</sup> Similarly, CTIA proposes that the Commission require that once a licensee provides notice of intent to commence service “anywhere in a PEA, such action triggers relocation obligations *throughout* the PEA.”<sup>27</sup>

PEAs should not be used as the geographic foundation for excluding WSDs from access to underutilized spectrum. There are only 416 PEAs in the entire United States, including U.S. island territories and one for the Gulf of Mexico. According to the map of PEAs available on the Office of Engineering and Technology’s website, PEAs can be larger than entire states.<sup>28</sup> Large bodies of water or mountains can separate portions of a single PEA. In many cases cities more than 100 miles apart are located in the same PEA. For example:

- Bangor, ME and Caribou, ME are over 145 miles apart – and in the same PEA.
- Hartford, CT and Manhattan, NY are nearly 100 miles apart – and in the same PEA.
- Monterey, CA is 84 miles south of San Francisco and Petaluma, CA is 33 miles north of San Francisco – and yet all three are in the same PEA.

The requirement to prohibit WSDs throughout a PEA simply because a licensee plans to commence operations in a portion of it [i.e. “*anywhere*”] would unnecessarily restrict opportunistic access to unused spectrum in instances where there is clearly no chance of harmful interference in this band because of the TV Bands Database. Indeed, allowing WSDs to continue

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<sup>26</sup> Comments of AT&T at 10. With respect to AT&T’s suggestion that unlicensed use should be subjected to the same 39-month limit that the Commission adopted for secondary broadcast licensees, we note that a Petition for Reconsideration would have been the proper course for AT&T to seek a reversal of that decision in the *Incentive Auction Report & Order*. AT&T’s proposal is not properly within the scope of this *Public Notice*.

<sup>27</sup> Comments of CTIA at 7 (emphasis in original).

<sup>28</sup> “FCC Areas,” Office of Engineering and Technology, available at <http://transition.fcc.gov/oet/info/maps/areas/>.

using the repurposed 600 MHz spectrum post-auction – based on a rationale of spectrum efficiency and the ability of the TV Bands Database to protect licensees from interference – but then making the protection zone the size of a PEA would be at best arbitrary overkill. The CTIA and AT&T proposal would also create a moral hazard, since licensed carriers will have a strong economic incentive to throw up a base station or two, whether in the most profitable downtown area or at the edge of the PEA, and by doing so pull the plug on Wireless Internet Service Providers (WISPs) and any other opportunistic public access to the vacant spectrum.

OTI and PK strongly believe that the proposal in the *Public Notice* and in the *Part 15 NPRM* strike the right balance between simplicity for the parties and not denying access to unlicensed devices located far beyond the licensee’s actual service area. No standardized licensing area comes close to replicating the efficiency of what the TV Bands Database can provide using very straightforward data points that are readily available to licensed carriers. In certain states even Cellular Market Areas can extend hundreds of miles beyond a single urban area where a carrier may initially provide service. Any standard geographic unit would be arbitrary, compared to relying on the TV Bands Database, since it would not take into account the location of the carrier’s base station within the area – and therefore is inferior to the protection zone that carrier itself can determine under the Commission’s well-balanced proposal.

The policy proposed by the Commission is especially critical in rural and small market areas more likely to be underserved – since they are typically the last to be built out. Substantial capacity in the 600 MHz band spectrum will remain unused in large portions of the country for many years following the incentive auctions – and, if the experience is similar to past auctions, many rural and small town areas may not be built out even at the end of the initial 10-year

license term. There is no reason to wait many years and even possibly until after a drawn-out Part 27 re-licensing process to permit non-interfering use of fallow spectrum.

The Commission's proposal and rationale here is also consistent with the rules adopted to encourage more efficient spectrum use in the 2.5 GHz band. Under Section 27.55(a)(4) of the Commission's rules, licensees in the 2.5 GHz band may exceed the signal strength at the border of their licensed areas without consent where the neighboring licensee is not providing service. When the neighboring licensee commences service, the user is required to comply with the applicable power and emissions limits at the boundary and can exceed these limits if the licensee consents. In adopting the approach, the Commission recognized "the importance of ensuring the ubiquitous availability of broadband services."<sup>29</sup> The same rationale applies here, although with even less potential risk for any licensee since the TV Bands Database provides automatic exclusion of the unlicensed devices at any time that the licensee chooses to commence service.

**V. SPECTRUM LICENSES DO NOT CONFER 'EXCLUSIVE' RIGHTS ON ANY USER AND NO PROVISION OF THE 2012 SPECTRUM ACT LIMITS THE COMMISSION'S AUTHORITY TO CONDITION LICENSES WITH OBLIGATIONS TO FACILITATE FULL AND EFFICIENT USE OF A BAND**

In addition to suggesting a definition of "commence operations" that would eviscerate the use-it-or-share-it policy adopted by the Commission in last year's *Incentive Auction Report & Order*, AT&T goes one step further and argues that the Commission's policy is inconsistent with what it calls "exclusive use" licenses. AT&T opines that "the Commission historically has recognized that along with exclusive use licensing inherently comes dominion, control, and the

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<sup>29</sup> See Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands, WT Docket No. 03-66, *Report and Order and Further Notice of Proposed Rulemaking*, 19 FCC Rcd 14165, ¶¶ 109 (2004).

power to exclude others from the purchased spectrum.”<sup>30</sup> AT&T even claims (falsely) that “[n]ever before has the Commission carved out for secondary or unlicensed users significant rights to use spectrum that has been purchased at auction for a licensee’s exclusive use.”<sup>31</sup>

Although CTIA doesn’t repeat this argument in its *Public Notice* comments, the association similarly argued in response to the *Part 15 NPRM* that the use-it-or-share-it requirement proposed by the Commission “is wholly inconsistent with the ‘exclusive license’ provided to bidders in the incentive auction and impermissibly elevates the rights of unlicensed services.”<sup>32</sup>

Mobile carriers never seem to tire in their effort to relitigate this well-settled issue. The Powell Commission confronted this question squarely in its order approving ultra-wideband (UWB) operations as an underlay on PCS and other licensed bands. The Commission’s 2002 UWB Report & Order made it clear that incumbent licensees do not have the right to exclude other authorized users from emitting energy into their assigned bands, provided that there is an acceptably minimal risk of harmful interference.<sup>33</sup> In that proceeding, Sprint similarly “objected to the basic concept of UWB operation, stating that the Commission does not have a legal right to convert Sprint’s licenses into non-exclusive licenses and to require Sprint PCS to share its spectrum with others, much less share it for free.”<sup>34</sup> Sprint’s argument was that it had “spent over \$3 billion for exclusive” spectrum rights, and that “Commission authorization of new users

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<sup>30</sup> Comments of AT&T at 5.

<sup>31</sup> *Id.* at 4-5.

<sup>32</sup> Comments of CTIA – The Wireless Association, *Part 15 NPRM*, ET Docket No. 14-165 (February 4, 2015), at 39.

<sup>33</sup> In *Re Revision of Part 15 of the Commission’s Rules Regarding Ultra-Wideband Transmission Systems*, First Report and Order, 17 F.C.C. R. 10505 (2002) (“UWB First R&O”). *See also* In *Re Revision of Part 15 of the Commission’s Rules Regarding Ultra-Wideband Transmission Systems*, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, 18 F.C.C.R. 3857 (2003) (responding to several petitions for reconsideration and largely leaving the First Report and Order’s decisions and reasoning in place).

<sup>34</sup> *Id.* ¶ 271. For an excellent summary of this issue in relation to the Commission’s effort to balance auctioned but non-exclusive licensing rights with a desire to permit efficiency-enhancing, low-power UWB underlays, see Paul Margie, *Can You Hear Me Now? Getting Better Reception from the FCC’s Spectrum Policy*, 2003 *Stan. Tech. L. Rev.* 5.

constitutes breach of contract and an unlawful modification of licenses for which the Government would be liable for damages.”<sup>35</sup> The Commission firmly rejected Sprint’s argument for so-called “exclusive” use, stating:

**[S]pectrum is not, and has never been, exclusive to Sprint or to any other licensee or user.** While Sprint PCS has been provided some exclusivity in operating licensed PCS systems within specified geographic areas, Part 15 transmitters [such as personal computers and electric drills] currently are permitted to operate within the PCS and cellular frequency bands . . . [and] there are countless other devices that emit radio emissions within these bands.<sup>36</sup>

The Commission concluded that “[o]ur analysis of the record . . . indicates that UWB devices can be permitted to operate without causing harmful interference if appropriate technical standards and operational restrictions are applied to their use.”<sup>37</sup> Similarly, in this proceeding the Commission has correctly determined that the TV Bands Database system can ensure that once a licensee reports it will commence operations, all WSDs will be denied permission to transmit within a distance that could conceivably cause harmful interference to the licensee’s service.

Of course, the Commission’s authority to impose conditions on licensees in the public interest has deeper roots than the Communications Act truism that licenses confer no exhaustive or permanent rights. The Supreme Court and recent precedents have affirmed that Title III delegates “expansive powers” to the Commission, including a “comprehensive mandate to ‘encourage the larger and more effective use of radio in the public interest.’”<sup>38</sup> Section 303(b) of the Act specifically gives the Commission wide-ranging authority to “[p]rescribe the nature of the service to be rendered” by a licensee.<sup>39</sup>

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<sup>35</sup> *Id.*

<sup>36</sup> *Id.*

<sup>37</sup> *Id.* ¶ 18.

<sup>38</sup> *CNBC v. United States*, 319 U.S. 190, 219 (1943) (quoting 47 U.S.C. § 303(g)); *see also Cellco Partnership*, 700 F.3d 534, 542 (D.C. Cir. 2012) (upholding the Commission’s authority to require licensees to offer data roaming agreements on commercially reasonable terms and conditions).

<sup>39</sup> 47 U.S.C. § 303(b). *See also Cellco Partnership v. FCC*, 700 F.3d at 542.

Reinforcing this authority, section 303(r) empowers the Commission to “[m]ake such rules and regulations and prescribe such restrictions and conditions, not inconsistent with law, as may be necessary to carry out the provisions of this chapter.”<sup>40</sup> And although the Commission’s authority to condition a license may be most clear where, as here, it is defining obligations on a newly-allocated band for the first time and prior to an auction, even after licenses are granted Section 316 of the Act authorizes “new conditions on existing licensees” “if in the judgment of the Commission such action will promote the public interest, convenience, and necessity.”<sup>41</sup> The outcome of the UWB proceeding was likewise premised on this basic principle.

CTIA and AT&T, perhaps recognizing the Commission clearly has the general authority to permit non-harmful sharing of any licensed band, also argue that the 2012 Spectrum Act only permits unlicensed use of the 600 MHz duplex gap and guard bands.<sup>42</sup> But although there is no language in the Spectrum Act that explicitly permits the Commission to allow continued and productive use of other fallow 600 MHz spectrum post-auction – neither is there any language that suggests the contrary. There is, however, language expressly stating that the Spectrum Act in no way diminishes the FCC’s pre-existing authority. The Spectrum Act confirms that nothing in Section 6404 “affects any authority the Commission has *to adopt and enforce rules of general applicability . . .*”<sup>43</sup>

The Congressional purpose underlying the Spectrum Act focused on authorizing an incentive auction that would shift low-band spectrum into the hands of mobile providers for licensed use – and nothing in the Commission’s proposal impedes unfettered licensed use of the

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<sup>40</sup> 47 U.S.C. § 303(r). *See also Cellco Partnership v. FCC*, 700 F.3d at 542.

<sup>41</sup> 47 U.S.C. § 316.

<sup>42</sup> Comments of CTIA at 8 (the Commission’s approach is “inconsistent with the dictates of the Spectrum Act”); Comments of AT&T at 6 (“the Spectrum Act does not contemplate secondary or unlicensed users continuing operations in the licensed 600 MHz band once a licensee acquires exclusive rights to the license.”).

<sup>43</sup> Spectrum Act § 6404.

600 MHz band post-auction. Potential licensees can factor in the modest reporting costs when they bid for 600 MHz licenses, or purchase it on secondary markets, although such costs would be negligible relative to the cost of the licenses. Although CTIA's members would understandably rather not have any "burdensome" reporting requirements that serve to facilitate enhanced Wi-Fi and other low-cost connectivity that potentially competes with mobile carrier offerings, whether the "burden" of such a licensing condition is justified by the public interest benefit is squarely within the Commission discretion.

## VI. CONCLUSION

OTI and PK commend and support the Commission's efforts to ensure that unused 600 Mhz spectrum can be put to use for broadband services to the greatest possible extent, rather than lie fallow during the period between the auction and the commencement of service by new licensees in the band. The vast majority of 600 MHz spectrum is currently vacant white space, most of which is currently available for unlicensed use based on the day-to-day authorization of the TV Bands Database. The Commission's proposal simply preserves and extends the status quo, ensuring more intensive and efficient use of spectrum with uniquely valuable propagation characteristics without unduly burdening or risking harmful interference to any licensed service. OTI and PK look forward to working with the Commission to complete these rules quickly so that both the incentive auction and further investment in unlicensed devices and deployments can proceed without undue delay.

Respectfully Submitted,

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