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July 7, 2017

# VIA ELECTRONIC FILING

Marlene H. Dortch, Secretary Federal Communications Commission 445 Twelfth Street, S.W. Washington, D.C. 20554

# Re: *Ex Parte* Communication Washington County, OR Waiver Request File No. 0007375570

Dear Ms. Dortch:

The Enterprise Wireless Alliance ("EWA" or Alliance") has reviewed the June 23, 2017 Reply Comments filed in this proceeding by the Washington County ("County") Consolidated Communications Agency ("WCCCA") and the Association of Public-Safety Communications Officials-International, Inc. ("APCO"). Both filings address, but do not resolve, the issues raised in the EWA Comments on the WCCCA waiver request.

Specifically, EWA stated that if the WCCCA could demonstrate a need for six additional channels at a site at which it already is licensed for 11 channels, and if it could demonstrate that there are no usable Public Safety frequencies that could be assigned at the site, the Alliance would not object to grant of a waiver that would leave only two Business/Industrial/Land Transportation ("B/ILT") channels in the area for use by B/ILT eligible entities. The Reply Comments do not provide such a showing.

With regard to the WCCCA's need for these additional channels, an almost doubling of capacity at the location in question, it essentially has repeated the explanation from its waiver request that the spectrum will "allow the technical team to develop and test the new P25 features...to enhance their P25 skill set."<sup>1</sup> EWA appreciates the need to test features in a new system, but still questions why six rather than four channels are needed for that purpose,

<sup>&</sup>lt;sup>1</sup> WCCCA Reply Comments at Section III (the Reply Comments are not paginated so the Alliance will reference the Section numbers provided).

particularly since the County has explained that substantial numbers of NPSPAC channels will become available in the near-term future.<sup>2</sup>

In lieu of the two B/ILT channels requested pursuant to waiver, the Alliance recommended that the WCCCA request a waiver based on a No Objection letter from Sprint to use two General Category ("GC") channels for which WCCCA is eligible.<sup>3</sup> The WCCCA's response to that proposal is confusing. It first states that the combiners it is using can only accept either 800 MHz or 700 MHz channels; the two bands cannot be mixed.<sup>4</sup> That may well be the case, but that fact has no relevance, as the GC channels are 800 MHz like the rest of the channels in the proposed system. It then states that all channels in the combiner must have equal ERP to provide consistent coverage, which it asserts requires channel spacing of 250 kHz or more. With due respect to the County's operating requirements, the attached Exhibit A prepared by Lockard & White concludes that the impact on coverage of the channel spacing using the EWA-proposed channels would be "insignificant." Moreover, the WCCCA has not addressed EWA's suggestion that the issue could be resolved by purchasing a second combiner for the two EWAproposed channels. The channel spacing in each would be more than the 250 kHz that the WCCCA states is required. EWA appreciates that there are costs and complexities associated with adding another combiner at a site, but both would be relatively miniscule in a project approved at the \$135,000,000 level.

APCO's response to the Alliance's suggestion is even more curious.<sup>5</sup> It dismisses the recommended GC channels on the basis that "any potential Sprint-vacated GC channels may require a waiver for early access to vacated spectrum that the Commission is not ordinarily inclined to grant."<sup>6</sup> This ignores the fact that the original application included an SMR channel for which an early access waiver was needed and as to which Sprint had provided a No Objection letter. Moreover, APCO's claim that the FCC is not "ordinarily inclined" to grant such waivers does not include a cite to any proceeding in which the Commission rejected a request for early access to Sprint-vacated spectrum, and EWA cannot find any such determination. In any event, waivers, by definition, are fact-specific. Since the WCCCA needs a waiver in either case – whether to secure two of the three remaining B/ILT channels in the area<sup>7</sup> or to be authorized for

<sup>&</sup>lt;sup>2</sup> The WCCCA explanation as to why it cannot use 12.5 kHz NPSPAC channels instead of B/ILT channels, also is less than clear. Putting aside the question of whether it is good spectrum management to treat offset channels as though they are co-channel and to analyze their availability based on 25 dBu interference contours, the diagram in the WCCCA Reply Comments illustrates a contour overlap between two sites without reference to the specific channels involved. It is meaningful only if all 84 12.5 kHz NPSPAC channels identified by EWA as available at Gales Peak are assigned at Goat Mountain or another site with a comparable contour overlap.

<sup>&</sup>lt;sup>3</sup> The County's original waiver request included just such a Sprint letter for an 800 MHz channel that subsequently was deleted and replaced with a channel that had become available without a waiver.

<sup>&</sup>lt;sup>4</sup> WCCCA Reply Comments at Sec. I.

<sup>&</sup>lt;sup>5</sup> APCO claims in its Reply Comments that EWA's reference in its Comments to the long-pending waiver request filed by American Electric Power Service Company ("AEP"), a waiver request opposed by APCO, "taxes the limited resources of the Commission and public safety." APCO Reply Comments at 3. While the Alliance cannot quantify the burden on APCO of drafting five sentences regarding that matter, two of which are quite brief, any burden on the FCC could be resolved by the Commission acting on the AEP waiver request. <sup>6</sup> APCO Reply Comments at 2.

<sup>&</sup>lt;sup>7</sup> EWA notes that APCO appears unperturbed at the idea of leaving B/ILT entities with only two channels in a major metropolitan area – where many B/ILT channels already are assigned to public safety systems – and yet is adamant in opposing the AEP request for access to a small number of channels temporarily reserved for, but unclaimed for,

two GC channels that Sprint has confirmed are not in use – it is the FCC that should determine which outcome would better serve the public interest, assuming it concludes that waiver relief is appropriate.

Sincerely, Mark E. Crosby

President/CEO

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Attachment

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public safety use in a relatively rural area where ample 800 MHz public safety spectrum remains available should it ever be needed.

# EXHIBIT A

# Analysis of EWA's Proposed Frequency Alternatives to WCCCA

Lockard & White

7/5/2017

In their reply to comments made by EWA as to the technical reason why WCCCA cannot use the 2 channels suggested by EWA, WCCCA has asserted that close spacing between transmit frequencies would cause a coverage imbalance between channels at a site. While this assertion has technical merit, Lockard & White (L&W) believes that the impact on the coverage would be negligible and can be further mitigated through proper combiner selection and system optimization.

WCCCA is requesting two new frequencies at their Gales Peak site. EWA has proposed the additional frequencies of 854.2375 MHz and 854.6125 MHz. WCCCA's existing frequencies at this site are: 854.4375 MHz, 855.2125 MHz, 855.4625 MHz, and 858.1375 MHz.

WCCCA wishes to maximize the effective coverage of their system by minimizing potential signal loss due to system components like combiners. However, even more important to them is that the signal output at a given site be the same across all channels. WCCCA's argument that insertion loss within a combiner varies depending on the transmit to transmit (TX-TX) spacing between the combined frequencies is correct. The larger the spacing, the lower the insertion loss.

WCCCA states, "The consistent power is extremely important in Public Safety Mission Critical Simulcast Trunked Radio Systems. During a tactical operation, even though the subscriber unit may not be moving, the subscriber is most likely to get assigned various channels during the ongoing conversation. It's important that each channel have equal ERP to prevent varying degrees of coverage area. For this reason, the channel spacing must be 250 kHz or more to ensure the system design is able to meet this requirement. While the specification for the combining equipment allows for 200 kHz spacing the manufacturer will not guarantee that all channels may be tuned to meet the consistent power objective."

		TX-TX	Estimated
Gales Peak	Frequency	Separation	Insertion Loss (dB)
EWA Proposed	854.2375	200 KHz	3.7
WCCA Existing	854.4375	200 KHz	3.7
EWA Proposed	854.6125	175 kHz	3.7
WCCA Existing	855.2125	600 KHz	2.6
WCCA Existing	855.4625	250 KHz	2.6
WCCA Existing	858.1375	2675 KHz	2.1

The following table illustrates the transmit to transmit spacing and estimated insertion loss given EWA's proposed frequencies:

Table 1:Gales Peak Insertion Loss

L&W does not know the make and model of the combiner that WCCCA plans to use in their new system. The insertion losses listed above are assuming the use of an 800 MHz cavity combiner made by

dBSpectra (model DSCC85-06D, list price \$13,050.00). It supports a minimum TX-TX separation of 150 kHz. As can be seen in the table, insertion loss will vary due to phasing loss, but the typical variance that the manufacturer aims for is 1 dB. Table 1 above shows a maximum variance of 1.6 dB, which is above the goal, but is still considered minimal. Furthermore, during system optimization, that variance could be brought down by slightly reducing the transmit power of the last three channels.

As for coverage area loss due to the 1.6 dB variance between channels, a theoretical "flat-earth" simulation shows that there would be roughly a 1 mile difference in range between these channels. See Figure 1.



Figure 1: Gales Peak - Flat Earth Simulation

When terrain is added to the simulation, the coverage at this site is shown to be terrain limited and a 1.6 dB difference would be insignificant for coverage. See Figure 2.



Figure 2: Gales Peak with Terrain

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#### Non-docketed Pleadings

Confirmation

Thank you for your submission. Please make a note of your confirmation number: 22458.

The following information was submitted with this Pleading:

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Reply

#### Dates

Entered Date: 07/07/2017

#### **Filer Information**

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#### File Number(s)/Call Sign(s)

0007375570 File Number

#### Attachment(s)

07/07/2017 Pleading Enterprise Wireless Alliance Reply re WA Cnty OR Waiver Rqt EWA Ex Parte Response to Wash Cnty OR Waiver 7-7-17.pdf

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