



July 17, 2020

**EXECUTIVE DIRECTOR  
CHIEF EXECUTIVE OFFICER**

Derek K. Poarch  
poarchd@apointl.org

**HEADQUARTERS**

**J. Rhett McMillian, Jr. Building**  
351 North Williamson Boulevard  
Daytona Beach, FL 32114-1112  
386-322-2500

**EXECUTIVE OFFICES**

**Gregory T. Riddle Building**  
1426 Prince Street  
Alexandria, VA 22314  
571-312-4400

[www.apointl.org](http://www.apointl.org)

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jkern@seecom911.org

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445 Twelfth Street, SW  
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**Re: Notice of *Ex Parte*, ET 18-295, GN 17-183, WP 07-100**

Dear Chairman Pai and Commissioners,

As you are aware, APCO International has significant concerns with the Commission's recent order permitting expansion of unlicensed use of the 6 GHz band, resulting in a rare decision for APCO to file a Petition for Stay<sup>1</sup> and Petition for Reconsideration.<sup>2</sup> We continue to urge you to heed our call to stay the rules and ensure that public safety communications are protected from irreversible harmful interference.

Recently, a group of RLAN proponents privately invited stakeholders to participate in a discussion regarding establishment of a multi-stakeholder group to focus on issues relevant to the 6 GHz band.<sup>3</sup> This effort is apparently in response to encouragement from the Commission for the industry to form a multi-stakeholder group to address issues such as detection and mitigation of interference from standard-power or indoor low-power devices.<sup>4</sup> One of APCO's chief concerns with the 6 GHz Order is that the Commission declined to adopt rules to ensure RLAN proponents are able to prevent, identify, and eliminate interference from new unlicensed users, relying instead on hopes that a voluntary group would address these issues. This approach was misguided when the 6 GHz Order was adopted, and it's increasingly clear that

<sup>1</sup> APCO International Petition for Stay, ET Docket No. 18-295, GN Docket No. 17-183 (filed May 28, 2020).

<sup>2</sup> APCO International Petition for Reconsideration, ET Docket No. 18-295, GN Docket No. 17-183 (filed May 28, 2020) ("APCO Petition for Reconsideration").

<sup>3</sup> Staff from the Chairman's office and the Office of Engineering and Technology were copied on an email invitation sent on June 24 on behalf of the Wi-Fi Alliance and WinnForum.

<sup>4</sup> See Unlicensed Use of the 6 GHz Band, Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz, ET Docket No. 18-295, GN Docket No. 17-183, Report and Order and Further Notice of Proposed Rulemaking, FCC 20-51 (rel. Apr. 24, 2020) para. 176 ("We encourage the multi-stakeholder group to address any issues it deems appropriate regarding interference detection and mitigation in the event that an incumbent licensee believes it may be experiencing harmful interference from standard-power or indoor low-power operations. These issues would include procedures and processes that could be followed if an incumbent licensee has, or potentially has, an interference complaint.").

such a group is unlikely to be effective. Public safety communications will be endangered unless the Commission changes course.

Below, we address I) the continued pattern of RLAN proponents' dismissiveness of the critical nature of public safety's reliance on the 6 GHz band, II) the reasons why a multi-stakeholder group will likely be unsuccessful in addressing interference prevention and mitigation issues, and III) findings from a nationwide survey that confirm the threat to public safety of the current approach to expanding unlicensed use of 6 GHz.

## I. The RLAN Proponents Continue Their Pattern of Disregarding Public Safety

Since the 6 GHz Order was adopted, proponents of the new rules have submitted numerous filings, the timing and substance of which send an unfortunate message that RLAN proponents are clearly not interested in constructive efforts aimed at protecting, or even understanding public safety concerns when it comes to this proceeding. To illustrate:

- RLAN proponents are exploiting the coronavirus pandemic to argue for increasing unlicensed spectrum, rather than recognizing that the pandemic is straining public safety agencies and will have long-term impacts (such as exacerbating budgetary constraints) that will make interference to 6 GHz systems harder to address and more detrimental to their life-saving missions.<sup>5</sup>
- RLAN proponents have mischaracterized public safety concerns in an irresponsible manner that suggests these parties care more about winning an argument than addressing legitimate concerns presented by public safety.<sup>6</sup>
- RLAN proponents do not view the multi-stakeholder group as a forum for addressing public safety's interference concerns.<sup>7</sup>

This behavior is consistent with RLAN proponents' advocacy in the leadup to the 6 GHz Order, and it only adds to APCO's concern that the Commission was wrong to rely on the industry to voluntarily convene a group to address the important issues of preventing, identifying, and eliminating interference from new unlicensed users. Without a radical change, the RLAN proponents seem destined to push forward with the new unlicensed framework despite the threat of harm to public safety.

## II. A Voluntary Multi-Stakeholder Group Is Unlikely to Resolve the Important Issues of How to Detect and Mitigate Interference from Standard-Power and Low-Power Devices

<sup>5</sup> See, e.g., Wi-Fi Alliance Opposition to Petition for Stay of APCO International at 12; NCTA Opposition to Petition for Stay of APCO International at 9.

<sup>6</sup> Apple, Inc. et al. Opposition to Petition for Stay of APCO International ("Contrary to APCO's assertions, the Commission's Enforcement Bureau has a proven track record of identifying and addressing cases of harmful interference caused by violation of the Commission's rules"). This wrongly suggests that APCO has been critical of the Enforcement Bureau. APCO's actual point is that the spectrum sharing framework presents the Enforcement Bureau and other parties with an extremely challenging, if not impossible task of resolving interference. Wi-Fi Alliance Opposition to Petition for Stay of APCO International (claiming that "APCO asserts that it is likely to succeed on the merits of its Petition for Reconsideration because the Commission's analyses regarding the potential for interference were wrong."). To the contrary, APCO made a point to say that its concerns were not based on technical arguments. APCO Petition for Reconsideration at 2.

<sup>7</sup> See, e.g., Comments of Consumer Technology Association at 12 (stating that "the FCC should monitor activities within the group to ensure that it is working diligently to generate recommendations to enable 6 GHz spectrum to be put to use as soon as possible to benefit American consumers and businesses."). Further, the RLAN proponents have proposed a first discussion regarding the establishment of the multi-stakeholder group that will not take place until after the rules are effective and vendors can start taking advantage of the new unlicensed rules. This underscores APCO's concern that these parties are not serious about using the multi-stakeholder group to address interference concerns.

A multi-stakeholder group could only be successful if:

1. The group includes broad participation of representatives of current licensed users of the band, including public safety agencies.
2. The group adopts a governance framework that ensures public safety's concerns will be addressed, even if a majority of participants do not share the concerns.
3. The group examines both technical and operational issues, such as prompt interference detection and mitigation in the event that an incumbent licensee believes it may be experiencing interference from standard-power or indoor low-power operations.
4. The group conducts real-world testing of standard-power and low-power devices through a neutral third party such as NTIA's Institute for Telecommunication Sciences, Idaho National Labs, or similar federal laboratory.
  - a. Recent real-world testing has indicated that low-power indoor devices will present a significant threat to public safety incumbents.<sup>8</sup> This suggests that the assumptions underlying the 6 GHz Order were flawed and confirms the importance of performing real-world testing before permitting any new unlicensed use of the band.
5. The group develops recommendations for how to prevent, identify, and eliminate interference that are incorporated into the Commission's 6 GHz rules and become enforceable.
6. No new 6 GHz unlicensed devices are marketed or sold until agreement has been reached and the rules have been revised.
  - a. This is of particular concern for devices that are not required to operate under the control of an AFC. Once these devices are unleashed into the marketplace, there is no turning back. Irreversible harmful interference to public safety communications networks will occur and leave agencies without options. Prohibiting new unlicensed 6 GHz devices from being marketed or sold until after the group has completed its work is necessary to prevent companies from offering products that do not conform to the standards ultimately adopted by the group. Even if well-intentioned stakeholders would agree not to market or sell devices until the group's work is complete, these efforts would be undermined by companies opting to break with the group and offer devices in the meantime (which is likely given that doing so would offer an immediate competitive advantage).

The RLAN proponents are unlikely to commit to these measures voluntarily. Given the lack of any mandate from the Commission and the unlicensed proponents' pattern of disregarding public safety's concerns, APCO has little confidence that a voluntary multi-stakeholder group will adequately address interference concerns.

### III. A Recent Survey of Public Safety Agencies Confirms the Importance of the 6 GHz Band and the Threat Posed by the Current Approach to Expanding Unlicensed Use of the Band

To help illustrate the threat of harm to public safety, APCO offers the following summary of a recent survey of public safety agencies that are using the 6 GHz band:

- Public safety agencies across the country depend upon the 6 GHz band.
  - Across the United States, in both rural and urban areas, public safety agencies rely on the 6 GHz band to support mission critical services such as first responders' voice communications, emergency dispatch / station alerting, and backup connections between emergency communications centers.

<sup>8</sup> Encina Communications Corp. Petition for Reconsideration, ET Docket No. 18-295, GN Docket No. 17-183 (filed June 29, 2020) at 2.

- There is not a good Plan B.
  - For the vast majority of respondents, interference to a 6 GHz link would result in a complete loss of communications served by the link. Only in a small number of cases would there be an immediate backup option, and the majority of respondents indicated that they would not have a viable alternative to 6 GHz such as a different band or a fiber connection. Where a band such as 11 GHz could work as a replacement, agencies will still face significant time and cost challenges.<sup>9</sup>
- Identifying and mitigating interference is expensive, time-consuming, and not always possible.
  - The impacts of interference range from degraded audio quality to a significant impact on 9-1-1 and dangerous loss of first responder voice communications.
  - A single case of interference can cost multi-millions of dollars for incumbents to attempt to resolve when taking into account in-house labor from technical staff, vendors, third party assistance, etc.
  - Almost every respondent reported that their systems can't identify or log instances of interference. Doing so entails an additional expense, and it is not an option for all equipment.<sup>10</sup>
  - Attempting to identify the source of interference can take months and sometimes is not possible at all. Intermittent sources (such as those expected to arise from unlicensed 6 GHz devices) are especially difficult to deal with.

APCO understands the potential benefits of making additional spectrum available for unlicensed use, but introducing hundreds of millions of such devices into a band heavily encumbered by public safety must be done in a responsible manner. The Commission has a statutory obligation to adopt and enforce rules to ensure RLAN proponents are held responsible for preventing and immediately identifying and eliminating any interference caused to public safety communications.<sup>11</sup> The best approach would be to vacate the rules expanding unlicensed use of the 6 GHz band and start anew with appropriate protections as a baseline. Time is running out for the Commission to change course.

Respectfully submitted,

APCO INTERNATIONAL

By:

Jeffrey S. Cohen  
 Chief Counsel  
 (571) 312-4400 ext. 7005  
[cohenj@apcointl.org](mailto:cohenj@apcointl.org)

CC (via email):

<sup>9</sup> Several agencies indicated that 4.9 GHz is an option they would explore if 6 GHz becomes unreliable, but 4.9 GHz remains less attractive due to the lack of required frequency coordination. This speaks to the need for the Commission to preserve the 4.9 GHz band for public safety and to revise the rules governing 4.9 GHz consistent with APCO's prior advocacy.

<sup>10</sup> RLAN proponents should be responsible for any new costs imposed on public safety incumbents to purchase equipment or services to detect these new sources of interference.

<sup>11</sup> See APCO Petition for Reconsideration at 3-4.

Aaron Goldberger  
Zenji Nakazawa  
Erin McGrath  
Will Adams  
Travis Litman  
Austin Bonner