

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)
)
Promoting Investment in the 3550-3700 MHz) GN Docket No. 17-258
Band)

REPLY COMMENTS OF FEDERATED WIRELESS, INC.

Federated Wireless, Inc. (“Federated Wireless” or “Federated”) hereby replies to the comments filed in response to the notice of proposed rulemaking (“NPRM”) in the above-captioned proceeding.¹ In Federated’s view, the comments filed in the docket thus far are predictable, confirming how industry is split on important CBRS issues such as the length of the license term and geographic service area for PAL licenses, secondary markets issues, and public disclosure of CBSD registration information. Federated Wireless is confident the Federal Communications Commission (“FCC” or “Commission”) will strike the right balance on these issues, concluding the CBRS proceeding, and confirming the leadership of the United States with respect to deploying innovative spectrum sharing technologies.

In these reply comments, Federated Wireless echoes the comments of AT&T, ARRIS/Ruckus, Vivint, Google, and Open Technology Institute and Public Knowledge (“OTI/PK”) that the Commission’s primary focus at this time must be expeditiously concluding this proceeding while simultaneously supporting final certifications for Spectrum Access System (“SAS”) administrators and Environmental Sensing Capabilities (“ESC”) operators by no later than June 30, 2018. The timing is critical in order to launch GAA service in 2018 as anticipated. Federated also urges the Commission to find viable middle ground approaches to resolve the secondary markets and information disclosure issues related to the CBRS band.

¹ See *Promoting Investment in the 3550-3700 MHz Band*, GN Docket No. 17-258, Notice of Proposed Rulemaking and Order Terminating Petitions, FCC 17-134 (2017) (“CBRS NPRM”).

I. ALL COMMENTERS ADDRESSING THE ISSUE SUPPORT EXPEDITIOUS SAS AND ESC CERTIFICATIONS, WITHOUT DELAY.

Federated Wireless was gratified to see widespread support for Commission focus on pressing forward to complete ESC and SAS certifications at the earliest possible time. As AT&T put it: “The Commission should endeavor to complete certification of SAS providers, initiate and finish testing of SAS and [ESC], and quickly allow the deployment of GAA *well in advance of any actions required for PAL service rules contemplated in this proceeding.*”² ARRIS/Ruckus likewise urged the Commission to “conclude this rulemaking as expeditiously as possible and do so in such a way as not to delay the commercial launch of nationwide General Authorized Access (GAA) services, which is contingent upon certification of the [SAS], the [ESC], and the radio access equipment.”³ Vivint agreed: “Certification of the first wave of [SAS] administrators and [ESC] networks represents the only meaningful obstacle to en masse deployment of CBRS services. Vivint urges the Commission to expeditiously move forward with certification of both systems, and to provide more transparency toward the certification process.”⁴

In fact, all commenters addressing this issue, including AT&T, ARRIS/Ruckus, Vivint, Federated,⁵ Google⁶ and Open Technology Institute and Public Knowledge (“OTI/PK”)⁷ agree that the Commission’s primary focus with respect to the CBRS band at this time should rest with completion of SAS and ESC certifications, without regard to resolution of the CBRS issues that are still before the Commission.

Although the issues surfaced in the NPRM are of concern to a number of stakeholders, and clearly need to be addressed, there is even greater urgency to ensure launch of GAA service in 2018. Since none of the issues raised in the NPRM affect SAS and ESC functionality, Federated urges the Commission to do all it can to support final certification of SAS administrators and ESC operators by June 30, 2018. As soon as

² Comments of AT&T Services, Inc., GN Docket No. 17-258, at 2 (Dec. 28, 2017 (“AT&T Comments”)) (*emphasis added*).

³ Comments of Ruckus Networks, a Company of ARRIS U.S. Holdings, Inc., GN Docket No. 17-258, at 2 (Dec. 28, 2017) (“ARRIS/Ruckus Comments”).

⁴ Comments of Vivint Wireless, Inc., GN Docket No. 17-258, at 5-6 (Dec. 28, 2017) (“Vivint Comments”).

⁵ See Comment of Federated Wireless, Inc., GN Docket No. 17-258, at 2 (Dec. 28, 2017) (“Federated Comments”).

⁶ See Comments of Google LLC, GN Docket No. 17-258, at 15 (Dec. 28, 2017) (“Google Comments”).

⁷ See Comments of Open Technology Institute at New America and Public Knowledge, GN Docket No. 17-258, at 17,19 (Dec. 28, 2017).

GAA operations commence, CBRS users will be able to provide consumers up to 150 MHz of additional bandwidth to satisfy unmet demand. Consumers and businesses in unserved and underserved locations, in rural areas, and in buildings or campuses that lack robust, high-quality connections, all will benefit.

II. DESPITE THE CONCERNS OF SOME COMMENTERS, THE COMMISSION SHOULD HAVE CONFIDENCE IN THE VIABILITY OF A ROBUST SECONDARY MARKET FOR CBRS SPECTRUM; IT ALSO SHOULD PROVIDE PROPER INCENTIVES TO ENCOURAGE PAL LEASING.

The comments reveal an inconsistent view by industry about whether secondary markets mechanisms will work for CBRS. On one side of the divide, commenters have confidence in a robust secondary market for CBRS spectrum, and urge the Commission to allow all secondary markets mechanisms for CBRS, including partitioning, disaggregation, spectrum manager leases and *de facto* transfer leases. Verizon notes that the “flexible ‘light touch’ leasing approach” contemplated by the Commission for the CBRS band could help “ensure a well-functioning secondary market for PALs.”⁸ Similarly, NCTA suggests that the Commission should allow partitioning and disaggregation for PAL spectrum, which would “provide more flexibility both to the license holder . . . and potentially to others who have a need for interference-protected spectrum in a discrete area but did not or could not win a license at auction.”⁹ NCTA goes on to observe: “SAS administrators could easily implement secondary market rules . . . reducing at least some of the friction typically associated with secondary market transactions.”¹⁰ NRTC and NRECA, representing rural wireless interests, also support “full secondary markets rights for PAL licensees” because “as long as spectrum warehousing is controlled through adequate substantial service benchmarks, secondary markets transactions, including disaggregation, partitioning, and leasing, tend to result in more effective use

⁸ See Comments of Verizon, GN Docket No. 17-258, at 15 (Dec. 28, 2017).

⁹ Comments of NCTA – The Internet & Television Association, GN Docket No. 17-258, at 10 (Dec. 28, 2017) (“NCTA Comments”).

¹⁰ See NCTA Comments at 11.

of licensed spectrum.”¹¹ Many other commenters agreed with these positions including the City of New York, Mobile Future, AT&T, ARRIS/Ruckus, Vivint, CTIA, US Cellular, T-Mobile and Nokia.¹²

On the other side of the divide, WISPA, Microsoft, Dynamic Spectrum Alliance, Google and NTCA expressed concern about the viability of secondary markets for CBRS, noting the high transaction costs¹³ and the general notion that “there often may be no incentive for a licensee to engage in secondary market transactions if the other party would compete with a carrier operating in a different band or if the alienation of spectrum rights would decrease a company’s market valuation based on a MHz-pop formula.”¹⁴ Most of these commenters advocate for smaller geographic services areas for PAL spectrum, using census tracts, because they don’t have confidence the secondary markets will work for CBRS.¹⁵

A. Federated Believes There is a Middle Ground on Secondary Markets, and that Leasing Will Be Robust Because of the Nature of CBRS Spectrum.

Acknowledging the foregoing concerns,¹⁶ Federated Wireless nevertheless believes there is a viable middle-ground position. There are built in incentives for greater use of secondary markets in the CBRS band for two reasons: (1) the SAS administrator will serve several important secondary market functions that are not available in other wireless bands, which will encourage and facilitate frictionless leasing; and (2) the failsafes inherent in CBRS spectrum, because of multiple PAL licensees and access to GAA spectrum,

¹¹ See Joint Comments of the National Rural Telecommunications Cooperative and the National Rural Electric Cooperative Association, GN Docket No. 17-258, at 7 (Dec. 28, 2017).

¹² See Comments of the City of New York, GN Docket No. 17-258, at 4 (Dec. 28, 2017); Comments of Mobile Future, GN Docket No. 17-258, at 9 (Dec. 28, 2017); AT&T Comments at 7; ARRIS/Ruckus Comments at 5-6; Comments of CTIA, GN Docket No. 17-258, at 9 (Dec. 28, 2017); Comments of United States Cellular Corporation, GN Docket No. 17-258, at 7 (Dec. 28, 2017); Comments of T-Mobile USA, Inc., GN Docket No. 17-258, at 12 (Dec. 28, 2017) (“T-Mobile Comments”); Comments of Nokia, GN Docket No. 17-258, at 4 (Dec. 28, 2017).

¹³ See Comments of the Wireless Internet Service Providers Association, GN Docket No. 17-258, at 43 (Dec. 28, 2017) (“WISPA Comments”); Comments of Microsoft Corporation, GN Docket No. 17-258, at 7 (Dec. 28, 2017); Comments of the Dynamic Spectrum Alliance, GN Docket No. 17-258, at 6 (Dec. 28, 2017) (“DSA Comments”); Google Comments at 18; Comments of NTCA, GN Docket No. 17-258, at 6 (Dec. 28, 2017).

¹⁴ WISPA Comments at 43.

¹⁵ See Vivint Comments at 5; WISPA Comments at 43; DSA Comments at 6; OTI/PK Comments at 33; Comments of Comcast Corporation GN Docket No. 17-258, at 12 (Dec. 28, 2017) (“Comcast Comments”); Google Comments at 18.

¹⁶ Secondary markets leasing is very strong in some wireless services, such as in the 2.5 GHz band where intensive leasing of the band has been the norm for more than 25 years.

will support more flexible, shorter-term leases, which will encourage licensees to lease their spectrum while protecting the opportunities of the lessee.

First, the SAS administrator will serve several important functions that will facilitate secondary markets transactions – functions which don't exist or are poorly performed in other spectrum bands. The SAS administrator will offer increased transparency, competition for leasing opportunities, and accountability. For example, if a lessee desires to lease CBRS spectrum in a specific geographic area, it can contact a SAS administrator who can help the lessee determine if there is available PAL spectrum in the desired service area. This capability does not exist with respect to other licensed wireless bands.

Moreover, the SAS administrator will create a natural competitive market for leasing. The offer to lease spectrum will be made available by the SAS administrator to all PAL licensees with coverage to the desired area and available spectrum. After consideration of the lease opportunity concludes, and an agreement is documented (likely through a simple, automated lease), the SAS administrator can notify the FCC, and the process is at an end. The ease of this leasing process, alone, compared to how secondary markets work today for other wireless services, is the first incentive that will make leasing in the CBRS band both more attractive and more effective. The transaction costs that are of concern to some commenters, and the time required to execute a secondary markets strategy, should be a fraction of the costs and time involved in traditional secondary markets transactions.

The SAS also can create accountability, which will be important if the Commission considers implementing additional mechanisms to ensure intensive use of the CBRS band. The SAS can keep track of where CBRS spectrum is being utilized, where it is not, and where requests have been made for secondary markets leases. All of this information can be readily compared at predetermined time intervals. If lease offers are rejected and the spectrum is never utilized by the PAL licensee in the desired lease area, this can easily be documented by the SAS.

Second, the failsafes inherent in CBRS spectrum, because of multiple PAL licensees and access to GAA spectrum, will support more flexible, shorter-term leases, encouraging licensees to lease their spectrum while protecting the opportunities of the lessee. Today, licensees often won't enter into leases because they have plans to use the spectrum in the future and don't want to encumber it. On the other side of the transaction, lessees typically want long term leases because they need security for their long-term business plans and security for their lenders. Typically there are no other leasing options. Here, because of the nature of the CBRS spectrum, with multiple PAL licensees, and the consistent presence of GAA spectrum, the concerns of both licensees and lessees can be addressed.

Licensees and lessees both can comfortably enter into shorter-term leasing arrangements for PAL spectrum, more palatable to licensees, because there are two fallbacks to satisfy the needs of the lessee. First, in the event a short-term lease concludes or a licensee needs to terminate a lease earlier than anticipated, there are other PAL licensees that can be approached for future leasing in the geographic area. The SAS can facilitate finding a replacement lessor. Second, if this effort fails, the lessee's business can nevertheless continue to operate on GAA spectrum. The service levels offered over GAA spectrum may not be as robust as the service offered over PAL spectrum, but the business can continue. In other wireless services, if a lease is short term, or terminated early, the lessee might not have other leasing options, stranding their business and customers. But that is not the case in the CBRS band. CBRS leasing offers more flexibility by offering not just one safety net (other PAL licensees), but two (use of GAA spectrum).

One additional note: In addition to markedly lower transaction costs for PAL leases, Federated believes that a robust PAL secondary market will drive down PAL lease fees, lower than for other wireless spectrum, for several reasons: (1) there will be competition to lease PAL spectrum among PAL licensees; (2) there will be transparency about PAL spectrum that is available for lease; (3) there will be a marketplace for PAL spectrum transactions facilitated by the SAS; (4) the availability of GAA spectrum will provide a

fallback and thereby control lease fees; and (5) there will be band-wide interoperability in the CBRS band, which will promote use and competition.

B. Federated Urges the Commission to Consider Additional Incentives for Secondary Markets Leasing.

As Federated indicated in its Comments,¹⁷ a robust secondary market is critical for the CBRS band. Federated encourages the Commission to adopt incentives for leasing unused spectrum, both for short-term and long-term use.

For example, the Commission could consider offering relaxed build-out requirements for PAL licensees that engage in secondary markets leasing. The SAS administrator can help the FCC validate the secondary markets efforts of the licensee. Entities wishing to utilize CBRS spectrum will contact SAS administrators with their desired leasing parameters – geographic area, amount of spectrum needed and desired term. The SAS administrator will provide the request to all PAL licensees in the geographic area and help facilitate negotiations among PAL licensees and the potential lessee. If no PAL licensees will lease spectrum to the lessee in the desired area, then the SAS administrator will keep track of that area. This information can be made available to the Commission to determine the extent to which the incentives are having the desired effect and, if not, to inform appropriate adjustments.

However, if a PAL licensee proves to be particularly enthusiastic and flexible about making its unused spectrum available, even on a short-term basis, then there should be rewards such as reducing future build out requirements or increasing the license term. The same rewards should apply to licensees that intensively use their PAL spectrum, building it out and deploying it ahead of schedule.

C. The Commission Should Adopt Performance Benchmarks for PAL Licenses.

In the NPRM, the Commission seeks comment on whether the addition of performance requirements for PAL licensees would aid in promoting a robust secondary market for CBRS spectrum.¹⁸

¹⁷ See Federated Comments at 10.

¹⁸ CBRS NPRM at ¶ 32.

In general, Federated believes that not only are performance benchmarks essential to a new PAL framework, but there should be near-term and more frequent performance benchmarks for CBRS spectrum utilization in order to monitor the success of the above incentives and rewards. Federated also encourages the Commission to incentivize leasing by allowing PAL licensees to count, for purposes of satisfying their performance benchmarks, the CBRS utilization by their lessees. Properly incenting PAL licensees to enter into secondary markets transactions will promote dense, meaningful use of CBRS spectrum.

Federated is of the view that utilization obligations for PAL spectrum should increase over time. The benchmarks could be set at 10% per year for each year of a 10-year license term, reaching 100% utilization by year 10, or benchmarks every 2 years with 20% utilization required at year 2, 40% utilization required at year 4, etc. These are merely pro forma suggestions, and there are obviously ranges of performance metrics that could be applied. Moreover, the Commission may want to take a cue from the Spectrum Frontiers proceeding, and adopt a range of performance measures to retain “enough flexibility to accommodate both traditional services and new or innovative services or deployment patterns.”¹⁹ Federated believes a variety of CBRS uses and use cases will emerge, and utilization standards should be flexible.

More frequent reporting obligations should not be a burden on PAL licensees, because one benefit of the SAS is that performance benchmark reports can be automated. PAL licensees generally won't need to fill out FCC forms and generate their own performance reports. Instead, each SAS administrator can use the same modeling assumptions and technical criteria, generating standardized reports that should eliminate the need for independent work by the licensee, or intensive FCC analysis.

¹⁹ See *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services*, Report & Order and Further Notice of Proposed Rulemaking, FCC 16-89, ¶ 203 (July 14, 2016) (“Spectrum Frontiers R&O”) (“We also decline to adopt a usage-based metric for performance requirements because it is not clear that there is a workable method of measuring or enforcing such a requirement. Instead, we adopt a series of metrics, tailored for each type of service a licensee might choose to offer [point to multipoint, fixed and combination]. Licensees may fulfill their performance requirements by showing that they meet their choice of any one of the below standards, or a combination of several. This framework is intended to provide enough certainty to licensees to encourage investment and deployment in these bands as soon as possible, while retaining enough flexibility to accommodate both traditional services and new or innovative services or deployment patterns.”).

III. THE COMMISSION SHOULD PROTECT SENSITIVE CBRS USER INFORMATION BY ONLY ALLOWING PUBLIC DISCLOSURE OF AGGREGATED, ANONYMIZED AND OBFUSCATED CBRS DATA IN A “HEAT MAP” OR “GRAPHICAL MOSAIC” FORMAT, UNLESS A CBRS USER “OPTS-IN” TO MORE FULSOME DATA DISCLOSURES.

Federated Wireless agrees with the many commenters, including NCTA, Comcast, Ericsson, Comsearch, NRTC and NRECA, AT&T, CTIA, Verizon, Nokia, US Cellular and T-Mobile that the Commission should “amend the current rules to prohibit SASs from disclosing publicly CBSD registration information that may compromise the security of critical network deployments or be considered competitively sensitive.”²⁰ Federated Wireless fully supports information privacy for CBRS users. Federated also understands the comments made by OTI/PK, Google and others that certain CBRS data may nevertheless be available through crowd-sourced databases, which cannot be controlled.²¹ There is a difference, however, between the FCC authorizing a SAS administrator to disclose information, and information being acquired, used or disseminated through independent or unauthorized means. All measures should be taken to protect network-critical and competitively-sensitive information in order to encourage robust use of CBRS spectrum. On balance, Federated is in line with the thoughts of NCTA that “CBSD registration information should, in general, be protected from public disclosure[, but] sufficient information should be made available to allow prospective network operators to plan and execute their deployments.”²² Federated believes this is a common sense middle ground position that the Commission should embrace.

As described in its Comments, Federated Wireless urges the Commission to adopt a framework that would only allow public disclosure of aggregated, anonymized and obfuscated information that would not reveal any CBSD- or licensee-specific data. The SAS administrator would only be permitted to publish, for instance, a graphical mosaic or heat map—based on certain aggregated, anonymized and obfuscated

²⁰ See CBRS NPRM at ¶ 37.

²¹ See, eg., OTI/PK Comments at 36-37; Google Comments at 23; Comcast Comments at 31.

²² NCTA Comments at 17.

registration information—showing the level of spectrum use in a given area and the amount of spectrum available. Such information would not reveal the licensee identity, specific location of any CBSD, specific frequencies in use, or the tier of user. It also would address the security concerns raised by CTIA and the carriers, as the licensee, location, and operational information for any given CBSD would be withheld from public disclosure, while also permitting current and prospective users to better plan for future deployments.

The only circumstance under which CBRS data could be publicly disclosed beyond a heat map or graphical mosaic would be pursuant to a specific CBRS licensee or lessee “opt-in” to more detailed disclosures based on their business needs. Certain licensees and lessees, such as those wishing to provide neutral host services, may wish to publicize their location and other information that would otherwise be withheld from disclosure to attract potential customers. The Commission should, therefore, clarify that SAS administrators may offer an “opt-in” mechanism that will allow more detailed public disclosures for certain licensees and lessees.

IV. CONCLUSION.

At this juncture, the most important task before all CBRS stakeholders, including the Commission, is to act expeditiously to cause final certification of SAS administrators and ESC operators by June 30, 2018. Industry is ready for GAA operations to commence this year. Federated also encourages the Commission to adopt middle ground positions on secondary markets and information disclosure as described in the above comments, which should satisfy the needs of all industry stakeholders.

Respectfully submitted,

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