

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

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| In the Matter of |) | |
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| Promoting Investment in the 3550-3700 MHz Band |) | GN Docket 17-258 |
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**Joint Comments of the
Telecommunications Subcommittee of the American Petroleum Institute
and the Regulatory and Technology Committee of the
Energy Telecommunications and Electrical Association**

The Telecommunications Subcommittee of the American Petroleum Institute (“API”) and the Regulatory and Technology and Technology Committee of the Energy Telecommunications and Electrical Association (“ENTELEC”) jointly submit these comments in response to the Federal Communications Commission’s Notice of Proposed Rulemaking and Order Terminating Petitions (“NPRM”) in the Citizens Broadband Radio Service (“CBRS”) proceeding.¹

Background

API is a national trade association representing more than 625 companies involved in all phases of the petroleum and natural gas industries, including exploration, production, refining, marketing and transportation of petroleum, petroleum products and natural gas. Among its many activities, API acts on behalf of its members before federal and state regulatory agencies. The API Telecommunications Subcommittee evaluates and develops responses to state and federal proposals affecting telecommunications facilities used in the oil and gas industries. API is supported and sustained by companies that make use of a wide variety of wireline, wireless and satellite communications services on both a private and commercial basis. All wireless services used by our membership require RF spectrum resources, of both narrowband and broadband varieties.

ENTELEC is a user association focusing on communications and control technologies used by petroleum, natural gas, pipeline and electric utility companies. The Regulatory and Technology Committee is comprised of ENTELEC’s members and provides policy advocacy and targeted educational opportunities and resources on behalf of those members.

¹ *In re Promoting Investment in the 3550-3700 MHz Band*, Notice of Proposed Rulemaking and Order Terminating Petitions, FCC 17-134 (*rel.* Oct. 24, 2017).

Comments

Our comments in response to the NPRM focus on the Commission's proposed changes to the CBRS rules. We wish to highlight several proposed changes that, if adopted, will significantly reduce the utility of the CBRS band for critical infrastructure companies.

In adopting the revised CBRS rules, the Commission sought to increase the amount of affordable spectrum available to support wireless broadband applications.² In fact, the acronym adopted by the Commission confirms that the rules were not focused on providing additional spectrum to large telecommunications carriers, but focused on “Citizens.”

The original CBRS rules adopted by the Commission permitted critical infrastructure entities, including oil and gas companies, electric utilities, and railroads (collectively, “CII”), access to licensed broadband spectrum to replace spectrum resources that were reallocated over the previous decade.³ Some of the reallocated spectrum is now used by commercial providers (*ex.* the 1.8 GHz - 2.1 GHz band; 2.5 GHz band). Other spectrum bands were re-farmed, including the upper 50 MHz of the CBRS band (3.65-3.70 GHz) which was available to CII entities on a licensed basis until the rules were changed by the Commission and the 5 GHz unlicensed bands, which can be accessed by commercial providers to support unlicensed LTE operations.

However, several recent changes proposed by the Commission harm CII entities and will, in practice, make the CBRS band another primary spectrum resource that will be purchased by large telecommunications carriers. If proposals by T-Mobile, the Cellular Telecommunications Industry Association (collectively “TMCTIA”), and others are to be adopted, the Commission would effectively be changing the acronym for CBRS to be “Carriers Broadband Radio Service.”

The Commission may recall that TMCTIA initially proposed changing the licensing conditions for the Priority Access tier, arguing that the band should be subdivided into three 50 MHz blocks. This aggregation would have harmed CII entities in two key ways. First, it would artificially depress the number of licenses that could be purchased in any given area, thereby increasing the price and limiting the pool of entities that would compete to acquire licenses in a given area. In addition, in some densely-populated areas, it may have all but eliminated the General Access tier that could have been used by CII entities that were unable to acquire CBRS spectrum in a protected tier.

Fortunately, the Commission is not proposing to adopt this spectrum aggregation proposal. But this aggregation proposal demonstrates the intent of the large carriers to harmonize the CBRS rules with their planned network deployments. The Commission should not revise its CBRS rules in acquiescence to carrier's requests. The Commission should send a clear message and stay true to CBRS as a Citizens band by fostering rules for private wireless

² See, Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band, GN Docket No. 12-354, Report and Order and Second Further Notice of Proposed Rulemaking, 30 FCC Rcd 3959 (2015).

³ *Id.*

entities, such as CII. Large commercial telecommunications providers can still compete in CBRS auctions. But maintaining small, licensed geographic territories, auctioning smaller blocks of spectrum, and retaining a significant portion of spectrum for General Access licensees will all enable CII entities to compete with these large carriers for valuable broadband spectrum.

More specifically, the Commission had correctly addressed the cost barrier of licensed access in its current rulemaking stance for CBRS by limiting the geographical limits to census tract areas more in line with private holdings that are more efficient for CII operations. Furthermore, the Commission has offered a Priority Access License (PAL) and General Authorization Access (GAA) tier to segment CBRS to a degree – allowing those who needed priority to pay for a separate authorization and those who would forego that priority and operate on a “best available” basis.

Before addressing specific items in the NPRM, it is key to understand that today’s wireless connectivity (whether at 4G or 5G speeds) ends up as part of Internet, intranet, or stand-alone connectivity. These are critical backhaul requirements for CII and all other industries. To enable this, CII needs licensed broadband spectrum. The Commission should provide useful broadband options for all users that fit the needs and business models of their citizens, and not reflexively support the highest bidder.

Primary –not secondary – markets are the answer. Most spectrum owners who are buying spectrum for internal operations are not interested in leasing spectrum which can be in direct competition with their own services. Imagine if real estate was now being commercialized, and commercial ventures convinced the government that only large tracts would be sold and that land would end up in the hands of only a small number of bidders. We would be back in the feudal system. Let’s not create a feudal system in RF spectrum.

Below, we address several specific proposals that were included in the NPRM:

- 1) License Boundaries. We strongly believe that the license boundaries should not extend to Partial Economic Areas (PEA) for any PAL. The Houston area demonstrates the importance of this distinction. The difference between the Houston PEA and any of the individual census tracts that comprise the much larger PEA demonstrates that many, if not all, CII entities would be foreclosed from competing with commercial providers for CBRS spectrum in an entire PEA. An oil and gas company would not be able to compete for CBRS spectrum to cover an individual refinery, for example, if the licensed area offered by the Commission is an entire PEA. In that spirit, API and ENTELEC do not support a county-wide license in urban centers for the same reason (Harris County, which includes Houston, has a population of over 4,000,000 residents). We support the Commission’s original proposal of licensing smaller blocks of CBRS spectrum by census tracts and only reverting to a county-wide licensed area for rural counties.
- 2) License Term. While API and ENTELEC do not take major issue to the 10-year license term, with 10-year renewal expectancy for PALs, we recommend the Commission consider a 5-year license term with an expectation of the license being renewed. Shortening the license term will offer the Commission more flexibility and control. As

part of the renewal process, the licensee would have to demonstrate that it is covering a sufficient portion of its licensed geographic area. For the Gulf of Mexico and Alaska, outside of the cities of Anchorage and Fairbanks, a less stringent requirement should be sufficient. We suggest that coverage as low as five to 10 percent of the area would be adequate for areas as vast as the Gulf of Mexico, however the Commission could consider this on a case-by-case basis. A 5-year license term represents a compromise between our initial proposal of a three-year buildout period with a seven-year license term. Regardless of the durations adopted by the Commission, API and ENTELEC believe that build-out criteria are necessary to warrant renewal of the license.

- 3) PAL Availability. API and ENTELEC support auctioning all PALs, subject to a minimum opening bid. The SAS will not reserve unused spectrum. As a result, all PALs should be auctioned to guarantee priority access and the GAA tier will still be permitted.
- 4) Emissions Bandwidth. We support the Commission's suggestion of the alternative graduated limit from 'B' to the band edge (-13 dBm/MHz to B/2 and -25 dBm/MHz at B).
- 5) Channel Aggregation. API and ENTELEC support an aggregation limit per census tract not to exceed 40 MHz (for a hybrid PAL/GAA aggregation) or 30 MHz (for purely PAL licenses). If the Commission truly wishes to promote 5G deployments, it should accomplish this goal through license aggregation limits. Of course, the SAS should be able to validate the amount of bandwidth used by the PAL licensee on a regular basis. On the other side, with only seven PAL licenses available in a given census tract, being able to aggregate three channel blocks will limit the number of successful bidders in a given census tract. Permitting higher aggregation limits would further curtail competition and several restrict the number of potential bidders.
- 6) Specific Channel Allocations. The Commission should specify a preferred channel plan for each PAL. This would assist in planning and aid in system optimization. Of course, while the SAS may have to move the preferred channel, such occurrences would be minimal.
- 7) Border areas. API and ENTELEC believe that the challenges related to border disputes that would accompany licensing by census tract will be minor. For CII entities, we believe most of these issues can be resolved with adjustments to the Spectrum Allocation System (SAS). Our members will predominantly rely on CBRS spectrum for covering a single facility located within a census tract. In addition, any border concerns faced by nationwide carriers can be addressed via acquiring adjacent census tracts and specific channel allocations (as specified above).
- 8) Mid-band Spectrum. While we agree that the CBRS band is considered mid-band spectrum, care must be taken to recognize that any mid-band spectrum that shares space with satellite, point-to-point microwave, or other incumbents is not always in the same service category due to criticality and reliability factors. While CBRS users "share" the radio waves with other users who bi-laterally accept the limitations, in other spectrum

bands dedicated users cannot tolerate the reliability reductions from new entrants. In fact, the new entrant may leverage the incumbent for backhaul. If this backhaul is done over the airwaves using a Part 101 microwave or satellite connection, spectrum sharing in the same band may hurt the overall connection reliability. In short, while sharing may work for the “last mile” for a consumer service, it can be perilous in the “back-bone” or for systems that need a high level of reliability. While every entity may define it differently, API and ENTELEC caution the Commission against lumping the 3 GHz and 6 GHz bands into the mid-band spectrum proceeding which may open up these bands to more widespread use. We believe this will do more harm than good.

Conclusion

It is imperative that the Commission not revise its CBRS rules in a way that would tilt the playing field in favor of large commercial carriers and remain true to CBRS as a “Citizen’s” band. Under the original CBRS rules, CII entities could couple the PAL and GAA tiers of CBRS spectrum with portions of the 5 GHz unlicensed sub-bands to meet needs as wide-ranging as industrial Internet of Things technology, private systems and other wireless networks. This continues to remain a sound idea that the CBRS rules should foster. These systems will create enterprise value for many entities in the CII industry, providing a direct public benefit. API and ENTELEC hope that for all CII entities, including our collective memberships, the manufacturers of equipment that will benefit from a larger number of system owners, and the citizens who rely on private wireless systems for efficient production and distribution of energy to heat homes, drive cars, and power other industries, that the Commission will strongly consider these rules suggestions for CBRS.