

Before the
Federal Communications Commission
Washington DC 20554

In the Matter of)
)
Amendment of the Commission's Rules with) GN Docket No. 12-354
Regard to Commercial Operations in the)
3550-3650 MHz Band)

**REPLY COMMENTS OF THE
FIXED WIRELESS COMMUNICATIONS COALITION**

The Fixed Wireless Communications Coalition, Inc. (FWCC)¹ files these Reply Comments in the above-captioned proceeding.²

The FWCC opposes applying the rules proposed for 3550-3650 MHz Citizens Broadband Radio Service (CBRS) to the 3650-3700 MHz band. In the alternative (although far less preferable), if the Commission does include 3650-3700 MHz in CBRS, it should permanently grandfather the links in operation as of the effective date of the new rules.

¹ The FWCC is a coalition of companies, associations, and individuals interested in the fixed service—i.e., in terrestrial fixed microwave communications. Our membership includes manufacturers of microwave equipment, fixed microwave engineering firms, licensees of terrestrial fixed microwave systems and their associations, and communications service providers and their associations. The membership also includes railroads, public utilities, petroleum and pipeline entities, public safety agencies, cable TV providers, backhaul providers, and/or their respective associations, communications carriers, and telecommunications attorneys and engineers. Our members build, install, and use both licensed and unlicensed point-to-point, point-to-multipoint, and other fixed wireless systems, in frequency bands from 900 MHz to 95 GHz. For more information, see www.fwcc.us.

² *Commercial Operations in the 3550-3650 MHz Band*, Further Notice of Proposed Rulemaking, 29 FCC Rcd 4273 (2014) (*FNPRM*).

INTRODUCTION

The Commission proposes a new CBRS at 3550-3650 MHz to operate under a novel, on-the-fly system of frequency management administered by a Spectrum Access System (SAS), based on three levels of user priority:

- Incumbent Access: limited to specified incumbent users, having priority over all other users based on geographic “exclusion zones” within which no one else can operate on protected frequencies.
- Priority Access: auctioned annually over small regions, required to protect Incumbent Access users, and protected in turn against General Authorized Access users.
- General Authorized Access: permitted to operate free of charge on spectrum not preempted by the two categories above.

The Commission asks whether it should expand this proposal to include the 3650-3700 MHz band,³ now used for fixed links.⁴ As of June 19, 2014, the band had 2,598 active, nationwide, non-exclusive licenses which collectively had registered 45,184 locations.⁵ One hundred seventeen of the licensees are utilities and other critical infrastructure industries (CII) users whose systems support a variety of smart grid and similarly critical applications.⁶ Utilities and other CII have heavily invested in the 3650-3700 MHz band. Their success has encouraged other utilities and CII likewise to explore the band’s potential to meet their communications needs.⁷

³ *FNPRM* at ¶¶ 163-69.

⁴ 47 C.F.R. Part 90, subpart Z.

⁵ *Mitchell Lazarus, Esq.*, Letter, DA 14-871 (Wireless Telecom. Bur. released June 23, 2014).

⁶ Utilities Telecom Council at 12. “[S]ome of the licensees have hundreds and thousands of applications on file for systems in the 3.65 GHz, all under a few licenses.” *Id.* at n.29.

⁷ Utilities Telecom Council at 12.

The Commission proposes to grandfather 3650-3700 MHz links for five years. During that time they would be protected as Incumbent Access users.⁸ After the five-year transition period, licensees could either bid under Priority Access rules or operate as opportunities permit under General Authorized Access.⁹

DISCUSSION

The public relies on stability in the Commission's rules. Companies that implement new facilities make their plans and commit their investments well in advance. Capricious rule changes that make a band unavailable on short notice disrupt orderly installation and expansion, increase costs unnecessarily, and ultimately raise prices for consumers. The perceived risk of such rule changes deters innovation and investment.

To be sure, the Commission sometimes must free a band from an obsolete or inefficient technology. Even then, it has always allowed sufficient transition time, with an eye to extracting maximum value from existing equipment and minimizing disruption to users. Technology in the 3650-3700 MHz band, however, is hardly obsolete or inefficient. The Commission adopted the current rules for the band less than ten years ago.¹⁰ The band's "light licensing" scheme was an experiment, and has been a success.¹¹ Once equipment capable of the required "contention-based

⁸ *FNPRM* at ¶ 166.

⁹ *FNPRM* at ¶ 167.

¹⁰ *Wireless Operations in the 3650-3700 MHz Band*, Report & Order, 20 FCC Rcd 6502 (2005).

¹¹ The FWCC did request a minor adjustment to the rules, to improve interference protection, but that only underscores that the band is working well in other respects. Petition for Rulemaking of the Fixed Wireless Communications Coalition (no RM number) (filed April 15, 2010), *dismissed without prejudice*, *Mitchell Lazarus, Esq.*, Letter, DA 14-871 (Wireless Telecom. Bur. released June 23, 2014).

protocols” became widely available, and the early adopters reported good results, new entrants flocked to the band.

Many of those licensees now oppose including the 3650-3700 MHz band in CBRS. In the words of Utilities Telecom Council:

[T]he Commission’s proposal to extend the 3.5 GHz rules onto the 3.65 GHz band would jeopardize the reliability and integrity of these [CII] systems and undermine the investments that have been made by utilities and CII in the band.¹²

The band is ideal for utilities’ advanced metering infrastructure (AMI) and smart grid supervisory control and data acquisition (SCADA) systems, which depend on reliable, robust communications.¹³ Use for these (and other) applications is steadily increasing. In view of the importance of CII to the Nation’s security, economy, and prosperity, and the continuing shortfall of CII-suitable spectrum, the Commission should leave the 3650-3700 MHz band undisturbed.

If the Commission nevertheless extends CBRS into 3650-3700 MHz, it should permanently grandfather the existing Part 90 links. Although this would rule out needed CII expansion in the band, it would at least allow existing operations to continue.¹⁴

The American Petroleum Institute comments on the injustice of ousting the present licensees:

[N]early all investment in the 3.65 GHz band has been made within the last few years. ... It is almost unconscionable that the Commission would

¹² Utilities Telecom Council at 2-3. *See also* Exelon Corporation at 3-4; Great River Energy at 5; Sacred Wind Communications, Inc. at 4-5; Salt River Project Agricultural Improvement and Power District at 2-3; Sprint Corporation at 4.

¹³ *See* Utilities Telecom Council at 2.

¹⁴ Google, Inc. (at 19-20) notes that grandfathered 3650-3700 MHz operations would be compatible with CBRS.

give licensees only a few years to transition from systems that were just authorized.¹⁵

API goes on to compare the proposed five-year transition period to the ten years allowed for Private Operational Fixed Service migration from the 2 GHz band, and the twenty years of the Private Land Mobile Radio Service narrowbanding process.¹⁶ The FWCC, whose collective experience goes back decades, cannot recall the Commission ever having terminated ongoing operations on as little as five years' notice.

Conversion to CBRS operation after the five year period, as the Commission proposes, would not simply be a matter of retuning or adjusting. The very different technical rules for CBRS would require junking equipment likely to still have many years of useful life remaining.¹⁷

Operating under General Authorized Access rules, with no assurance of obtaining a channel when needed and no interference protection from other CBRS users,¹⁸ is unsuited to critical applications. Bidding for links under Priority Access licenses would be equally unworkable. Needed links are unlikely to conform to the geographic boundaries of proposed Priority Access license areas; CII users cannot plausibly bid for Priority Access licenses covering all geographic areas in which they need operations. Even if bidding were otherwise feasible, CII users faced with newly emerging communications needs cannot wait for up to a full year for the next Priority Access auction to come around.

¹⁵ American Petroleum Institute at 5-6.

¹⁶ American Petroleum Institute at 6.

¹⁷ See Utilities Telecom Council at 12-13; Sprint Corporation at 4-6; Sacred Winds Communications, Inc. at 5.

¹⁸ *FNPRM* at ¶ 56.

The proposal also offends simple equity. In past reallocations, where the winners of license auctions displaced ongoing operations, the Commission required the incoming users to pay the costs of relocating the incumbents to a different band.¹⁹ Here, in contrast, the displaced incumbents would have to cover their own costs.

Any expectation that the SAS will be up and running within the five year transition period is probably unrealistic. In some respects the SAS system will resemble the TV White Space (TVWS) database: both inform user equipment as to which frequencies are available at a given location. But the similarity ends there. The TVWS database works slowly, over a 24 hour cycle, and protects about 4300 TV stations, most of whose locations and frequencies remain unchanged for years at a time, plus wireless microphones which come and go over hours and days.²⁰ The SAS, in contrast, will have to send near-continuous updates to millions of devices that go on and off and change frequencies on time scales measured in fractions of a second, along with receiving and processing near-continuous updates and requests from units in the field.

The comparison with TVWS is relevant here because the TVWS system took fully ten years to become operational²¹—not counting a great deal of work undertaken by TVWS proponents and the Commission prior to launch of the formal proceeding. Even now, another

¹⁹ E.g. 47 C.F.R. § 101.69-82.

²⁰ Today many wireless microphone users do not bother registering in the TVWS database because TVWS usage is so light.

²¹ The TVWS Notice of Inquiry and its initial large-scale roll-out came ten years apart. *Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, Notice of Inquiry, 17 FCC Rcd 25632 (Dec. 20, 2002); *Office of Engineering and Technology Authorizes TV White Space Database Administrators to Provide Service to Unlicensed Devices Operating on Unused TV Spectrum in the East Coast Region*, Public Notice, 27 FCC Rcd 15099 (Office of Engineering and Technology Dec. 6, 2012).

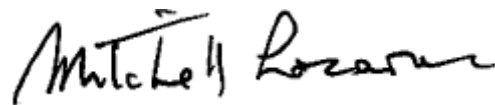
twenty months farther on, there are still no mobile TVWS devices certified, so the TVWS database system still has not been tested under the conditions it was designed to handle.

Considering the vastly greater complexity of the SAS, we suggest that a five year transition period reflects unjustified optimism. The Commission should not prematurely shut down successful and productive use of the 3650-3700 MHz band to accommodate a still-unbuilt technology whose operation may still be many years off.

CONCLUSION

The Commission should decline to extend CBRS into 3650-3700 MHz. In the alternative—although this is a distant second choice—it should permanently grandfather the existing Part 90 links.

Respectfully submitted,



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