

Before the
Federal Communications Commission
Washington DC 20554

In the Matter of)
)
Fixed Wireless Communications Coalition,)
Amendment of Sections 101.109 and 101.147) RM- _____
of the Commission's Rules to Accommodate)
30 MHz Channels in the 6525-6875 MHz Band)

PETITION FOR RULEMAKING

February 4, 2008

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Pursuant to Section 1.401 of the Commission's Rules, the Fixed Wireless Communications Coalition (FWCC) requests an amendment to Sections 101.109(c) and 101.147(l) to authorize 30 MHz channels in the 6525-6875 MHz band.¹

A. BACKGROUND

The 6 GHz fixed service spectrum is made up of two sub-bands. Each has a different maximum bandwidth and a different list of authorized bandwidths. See Table 1.

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, 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 and private cable 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.

Although a member of the FWCC, the American Petroleum Institute did not participate in this Petition.

| Sub-Band | Maximum Bandwidth² | Authorized Bandwidths³ | Remarks |
|--------------------------------|--|--|--|
| 5925-6425 MHz "Lower 6 GHz" | 30 MHz | 400 MHz 800 MHz 1.25 MHz 2.5 MHz 3.75 MHz 5 MHz 10 MHz 30 MHz | shared with Fixed Satellite Service uplinks |
| 6425-6525 MHz | Not available for fixed links⁴ | | |
| 6525-6875 MHz "Upper 6 GHz" | 10 MHz | 400 MHz 800 MHz 1.25 MHz 2.5 MHz 3.75 MHz 5 MHz 10 MHz | certain frequencies limited to emergency restoration, etc. |

**Table 1
6 GHz Sub-Bands**

The maximum authorized bandwidth in the 6525-6875 MHz band ("Upper 6 GHz") is only 10 MHz. Accordingly, this band cannot accommodate links handling data rates of more than about 50 megabits/second. Higher-speed links must instead be constructed at 5925-6425 MHz, where 30 MHz bandwidths are allowed. But the large number of earth stations in that band hinders coordination and sometimes prevents the installation of links at needed locations.

Many Upper 6 GHz links, constructed in accordance with the 10 MHz bandwidth limitation, have become strained as traffic increases beyond the carrying capacity of 10 MHz. To accommodate the growth, the operators of those links must either request waivers to coordinate bandwidths in excess of 10 MHz, or else try to find available 30 MHz channels in the

² 47 C.F.R. Sec. 101.109(c).

³ 47 C.F.R. Sec. 101.147(i), (l).

⁴ The 6425-6525 MHz band is available only for mobile use, such as TV remote pick-up. 47 C.F.R. Sec. 101.101.

Lower 6 GHz band. As noted, earth station proliferation makes the second option increasingly difficult, especially close to population centers.

B. NEED FOR RULEMAKING

Other things being equal, signals at lower frequencies propagate better than those at higher frequencies, and so are better suited to long links. Among the fixed service bands, 2 GHz has by far the best propagation, but has been reallocated to satellite and mobile services. Next best is the 4 GHz band, but coordination there is all but impossible nationwide, due to the extreme proliferation of registered receive-only satellite dishes. In practice, 6 GHz is often the lowest-frequency band available for long links.

The difference in propagation between the Upper 6 GHz and the Lower 6 GHz is negligible. But earth station congestion in the Lower 6 GHz band has made frequency coordination difficult -- especially in and near the major population centers, where the need for fixed service communications is greatest. As a result, long links are frequently possible only in the Upper 6 GHz band. But the rules there permit only relatively narrow bandwidths, sometimes ruling out the provision of long links capable of high capacity. The only alternative in those cases is to construct two or more shorter links at 11 or 18 GHz over the same distance.⁵ Needless to say, the need for intermediate stations along the route greatly increases the cost.

The Commission has occasionally granted waivers for bandwidths greater than 10 MHz in the Upper 6 GHz band. But the waiver option comes with a serious disadvantage: It bars conditional authorization. Ordinarily the rules on conditional authorization allow an applicant to commence operating a link as soon as the application is filed, if the link has been frequency

⁵ The intervening 10 GHz band is limited to 5 MHz bandwidths. 47 C.F.R. Sec. 101.147(m).

coordinated and certain other conditions are met.⁶ The applicant agrees to cease operation immediately if the application is dismissed or denied.⁷

Because conditional authorization is not permitted where the application requests a waiver,⁸ a high-capacity link in the Upper 6 GHz band -- even though successfully coordinated -- cannot be operated until the Commission completes processing the application.

Fixed service facilities must often be installed on short notice to meet urgent needs, which makes conditional licensing important to the industry and its customers. Fixed service bands carry critical services such as public safety communications (including police and fire vehicle dispatch), coordinating the movement of railroad trains, controlling natural gas and oil pipelines, regulating the electric grid, and backhauling wireless telephone traffic. In addition, they carry large amounts of business data. Conditional licensing allows providers to meet public safety, infrastructure, and commercial needs with minimum delay.

A change in the rules is needed to allow 30 MHz bandwidths in the Upper 6 GHz. The implementation of a rule amendment, rather than case-by-case waivers, will provide certainty to fixed service operators and end users, and will enable conditional licensing for the prompt deployment of new broadband links capable of high capacity.

⁶ 47 C.F.R. Sec. 101.31(b). In addition to the requirements mentioned in text, the antenna structures must either have or not need FAA approval, the application must not require an Environmental Assessment, the station site must lie outside certain specified areas (depending on frequency band), and the link must operate in accordance with its frequency coordination. *See* 47 C.F.R. Sec. 101.31(b)(1)(ii), (iv)-(vi), (viii).

⁷ 47 C.F.R. Sec. 101.31(b)(2), (3).

⁸ 47 C.F.R. Sec. 101.31(b)(1)(iii).

C. REQUEST FOR RULE CHANGE

Details of the requested rule amendment are set out in the Appendix. Those changes will have the following effects:

- amend Section 101.109(c) to permit coordination and licensing of 30 MHz channels in the Upper 6 GHz band;
- amend Section 101.147(a) to clarify that coordination of a 30 MHz link in the Upper 6 GHz band should be attempted only if the link cannot be accommodated in the Lower 6 GHz band; and
- amend Section 101.147(l) to specify frequency pairs for 30 MHz channels, while retaining the present option of using narrowband channels and preserving the frequencies allocated for emergency restoration.

These amendments will give coordinators and applicants needed flexibility in using the Upper 6 GHz band.

There is no danger of a licensee using a 30 MHz channel for data that could be handled on a narrower channel. The current rules eliminate that possibility by setting minimum bits-per-second and loading requirements for both the Upper and Lower 6 GHz bands.⁷

CONCLUSION

A grant of this petition will enhance the delivery of critical infrastructure and business services, in situations requiring high-speed links over long distances.

Respectfully submitted,

/s/

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⁷ 47 C.F.R. Sec. 101.141(a)(3).

APPENDIX

Part 101 of Title 47 of the Code of Federal Regulations is amended as follows:

PART 101 - FIXED MICROWAVE SERVICES

1. Section 101.109(c) is amended by changing the entry in the line of the table designated "6,525 to 6,875" from "10 MHz" to "30 MHz". The footnote is unchanged.
2. Section 101.147(a) is amended by adding after the table entry for "6,525-6,825 MHz" the note indicator "(33)."
3. Section 101.147(a) is further amended by adding a new note (33) to the Notes section to read as follows:

(33) The coordination of a new 30 MHz link in the 6,525-6,825 MHz band should be attempted only if it cannot be accommodated in the 5,925-6,425 MHz band.

4. Section 101.147(l) is amended by adding a new paragraph (8) to read as follows:

(8) 30 MHz bandwidth channels:

| Transmit (receive) (MHz) | Receive (transmit) (MHz) |
|--------------------------|--------------------------------|
| 6555..... | 6725 |
| 6595..... | 6755 |
| 6625..... | 6785 |
| 6655..... | 6815 |
| 6685..... | 6845 |

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