

Before the  
**Federal Communications Commission**  
Washington DC 20554

In the Matter of )  
 )  
Amendment of Part 90 of the Commission's ) No. \_\_\_\_\_  
Rules to Improve Interference Protection )  
in the 3650-3700 MHz Band )

**Petition for Rulemaking of the  
Fixed Wireless Communications Coalition**

Mitchell Lazarus  
FLETCHER, HEALD & HILDRETH, P.L.C.  
1300 North 17th Street, 11th Floor  
Arlington, VA 22209  
703-812-0440  
lazarus@fhhlaw.com  
Counsel for the Fixed Wireless  
Communications Coalition

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The Fixed Wireless Communications Coalition (FWCC)<sup>1</sup> files this Petition for Rulemaking pursuant to Section 1.401 of the Commission's Rules.<sup>2</sup>

**A. INTRODUCTION**

The Commission's National Broadband Plan foresees the need to free up spectrum for mobile broadband, fixed wireless broadband access, and backhaul.<sup>3</sup>

The 3650-3700 MHz band can satisfy some of this demand. It lies in the relatively narrow range of spectrum whose technical characteristics are well suited to both mobile and fixed

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<sup>1</sup> 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](http://www.fwcc.us).

<sup>2</sup> 47 C.F.R. § 1.401.

<sup>3</sup> See *Connecting America: The National Broadband Plan* at 76, 77 (released March 16, 2010) (use of wireless broadband growing rapidly in both mobile connectivity and fixed broadband applications; increase in mobile broadband raises demand for point-to-point backhaul).

applications. For flexibility and speed, the band's non-restrictive licensing and do-it-yourself database registration (discussed below) far outpace more conventional licensing regimes.

The utility of the 3650-3700 MHz band, however, is impaired by the limited interference protection it offers. Certain key provisions in the rules are framed as recommendations, rather than as requirements. Under a straightforward reading, some aspects of compliance appear to be optional. This makes an incumbent – even one that takes the rules seriously – vulnerable to a newcomer that does not. An aggrieved licensee has no effective remedies against even deliberate disregard of some provisions. FWCC members, and doubtless others as well, are reluctant to invest their money and reputations under service rules that can threaten reliability to this degree.

The present petition seeks to provide licensees and end users with greater assurance that their investment will not be jeopardized by unexpected interference against which they have no recourse. On the other hand, it does not seek the high levels of protection available with mandatory prior frequency coordination, as under Part 101. The FWCC prefers the speed and flexibility built into the present 3650-3700 MHz rules. Without seeking to disturb that basic scheme, we ask only that the Commission rephrase certain advisory language into mandatory terms. Doing so will clarify the rights of licensees while retaining all the benefits of the present rules.

## **B. BACKGROUND**

Service rules for the 3650-3700 MHz band uniquely combine much of the flexibility of unlicensed operation with some of the interference protection associated with traditional licensing.<sup>4</sup> Each user must obtain a non-exclusive, nationwide license.<sup>5</sup> Prior to operating a

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<sup>4</sup> 47 C.F.R. §§ 90.1301-90.1337. *See Wireless Operations in the 3650-3700 MHz Band*, Report and Order and Memorandum Opinion and Order, 20 FCC Rcd 6502 at ¶¶ 28-29 (2005)

fixed or base station, the licensee must register it in a Commission-maintained database.<sup>6</sup> Before doing so, the licensee is asked to examine existing entries and make every effort to ensure that the new station will operate at a location and under technical parameters that minimize the potential to cause and receive interference to and from previously registered users.<sup>7</sup> As a further (and important) precaution, stations are required to incorporate a contention-based protocol that automatically facilitates the sharing of frequencies.<sup>8</sup> If interference occurs nonetheless, all affected licensees, whether causing or suffering harmful interference, are expected to cooperate and to resolve the problem by mutually satisfactory arrangements.<sup>9</sup>

In responding to several reconsideration petitions, the Commission turned aside requests for conventional, exclusive licensing and left the regulatory scheme intact.<sup>10</sup> The order also rejected several “modifications that would effectively infuse the non-exclusive licensing scheme

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(3650-3700 MHz Order) (seeking to meet needs of unlicensed service providers; imposing mutual obligation on licensees to cooperate and avoid harmful interference to one another).

<sup>5</sup> 47 C.F.R. § 90.1307.

<sup>6</sup> 47 C.F.R. § 90.1307.

<sup>7</sup> 47 C.F.R. § 90.1319(d).

<sup>8</sup> 47 C.F.R. § 90.1319(b). A contention-based protocol is defined, in part, as a “protocol that allows multiple users to share the same spectrum by defining the events that must occur when two or more transmitters attempt to simultaneously access the same channel and establishing rules by which a transmitter provides reasonable opportunities for other transmitters to operate. Such a protocol may consist of procedures for initiating new transmissions, procedures for determining the state of the channel (available or unavailable), and procedures for managing retransmissions in the event of a busy channel. . . .” 47 C.F.R. § 90.7.

<sup>9</sup> 47 C.F.R. § 90.1319(d).

<sup>10</sup> *Wireless Operations in the 3650-3700 MHz Band*, Memorandum Opinion and Order, 22 FCC Rcd 10421 at ¶¶ 14-17 (2007). The only change was to clarify details of the contention-based protocol. *Id.* at ¶¶ 32-39.

with some of the rights and protections of a traditional, exclusively licensed regime.”<sup>11</sup>

Disfavored proposals included:

- a requirement that newcomers coordinate with incumbents;
- a deadline for applications, with the group of successful applicants in each market deciding among themselves on an appropriate mechanism to prevent interference;
- a Part 90-style frequency coordination regime under which coordinators evaluate licensees’ needs for requested spectrum at specific sites; and
- performance standards to ensure that licensees actually provide service where they have registered operations.<sup>12</sup>

Our request below does not duplicate any of these ideas.

### **C. NEED FOR RULE CHANGE**

This petition is prompted, in part, by the decision of the Wireless Telecommunications Bureau in *World Data PR Inc.*,<sup>13</sup> the only published interpretation to date of the 3650-3700 MHz interference protection rules.

Neptuno Networks, the petitioner in the case, complained of harmful interference from another licensee in the band, World Data PR Inc. Neptuno alleged that World Data operated transmitters without first checking the database, failed to register its own transmitters in the database, failed to coordinate its operations with Neptuno, and failed to cooperate in resolving the harmful interference that resulted.<sup>14</sup> World Data countered that it had indeed consulted the

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<sup>11</sup> *Id.* at ¶ 20.

<sup>12</sup> *Id.*

<sup>13</sup> Memorandum Opinion and Order, 24 FCC Rcd 14648 (Wireless Telecom. Bur. 2009).

<sup>14</sup> *Id.* at ¶¶ 3-4.

database,<sup>15</sup> and had taken certain technical steps toward sharing the band,<sup>16</sup> but it did not seriously dispute Neptuno's remaining allegations.<sup>17</sup>

The Bureau denied Neptuno's requests for relief. Its decision rejected the notion of a first-in-time priority among licensees,<sup>18</sup> reiterated the absence of a coordination requirement,<sup>19</sup> and emphasized all licensees' equal rights to the spectrum, with a mutual obligation to cooperate and avoid harmful interference to one another.<sup>20</sup>

We take no position on whether the Bureau's reading is consistent with the terms of the rule.<sup>21</sup> But the Bureau's interpretation of those terms allows a newcomer to cause harmful interference to an incumbent, and then demand that the incumbent make adjustments to alleviate the interference. Conversely, the newcomer can construct a system that receives harmful interference from an incumbent, and then look to the incumbent to take measures to rectify the problem.

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<sup>15</sup> *Id.* at ¶ 6.

<sup>16</sup> *Id.* at ¶ 13. The technical measures consisted of selecting the same time division duplex WiMAX technology used by Neptuno, deploying directional antennas, and using horizontal polarization in light of Neptuno's then-registered use of vertical polarization.

<sup>17</sup> *Id.* at ¶ 6.

<sup>18</sup> *Id.* at ¶ 15.

<sup>19</sup> *Id.* at ¶ 14.

<sup>20</sup> *Id.* at ¶ 15.

<sup>21</sup> Neptuno has a pending request for review by the full Commission, in which it argues that the Bureau's order conflicts with the rules. Application for Review of Neptuno Networks, Call Sign WQJI716, File Nos. 0003959230 *et al.* at 4-9 (filed Jan. 21, 2010).

These possibilities arise – and possibly occurred in the *World Data* matter – because some of the important rule provisions are framed in merely advisory terms.

Section 90.1307, on registration in the database, is appropriately mandatory.<sup>22</sup> So is the opening sentence to Section 90.1319(d), on cooperation among licensees.<sup>23</sup> But the specifics that follow are phrased more optionally. “Licensees *should* examine [the registration] database before seeking station authorization, and [*should*] make every effort” to minimize interference.<sup>24</sup> Similarly, “Licensees of stations suffering or causing harmful interference *are expected to* cooperate and resolve this problem by mutually satisfactory arrangements.”<sup>25</sup>

This language denies users an adequate degree of certainty. A licensee could make substantial investments in equipment, make commitments to customers, and then find itself subject to harmful interference from an uncaring newcomer. This risk greatly diminishes the utility of the band for even marginally critical applications.

#### **D. PROPOSED RULE CHANGE**

The FWCC asks the Commission to amend the rule so as to convert the advisory language noted above into mandatory requirements:

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<sup>22</sup> “A licensee *cannot* operate a fixed or base station before registering it under its license and licensees *must* delete registrations for unused fixed and base stations.” 47 C.F.R. § 90.1307 (emphasis added).

<sup>23</sup> “All applicants and licensees *shall* cooperate in the selection and use of frequencies in the 3650–3700 MHz band in order to minimize the potential for interference and make the most effective use of the authorized facilities.” 47 C.F.R. § 90.1319(d) (emphasis added).

<sup>24</sup> 47 C.F.R. § 90.1319(d) (emphasis added). The second “should,” in square brackets, does not appear in the text, but is necessarily implied by the context.

<sup>25</sup> *Id.* (emphasis added).

All applicants and licensees shall cooperate in the selection and use of frequencies in the 3650–3700 MHz band in order to minimize the potential for interference and make the most effective use of the authorized facilities. A database identifying the locations of registered stations will be available at <http://wireless.fcc.gov/uls> . Licensees ~~should~~ must examine this database before seeking station authorization, and must make every effort to ensure that their fixed and base stations operate at a location, and with technical parameters, that will minimize the potential to cause and receive interference. Licensees of stations suffering or causing harmful interference ~~are expected to~~ must cooperate and in good-faith to resolve this problem by mutually satisfactory arrangements.<sup>26</sup>

The proposed revision to the last sentence, on resolving interference problems, reflects the intent set out in the *3650-3700 MHz Order*, where the Commission said: “Should a licensee become aware of harmful interference, even if not intentionally caused, it *must act in good faith* to help eliminate the interference.”<sup>27</sup> This provision, coupled with the proposed requirements for checking the database and making every effort to choose locations and technical parameters to minimize interference, will improve quality of service while preserving the band’s flexibility and speedy implementation.

#### **E. PUBLIC INTEREST**

The proposed change will serve the public interest by making operations in the 3650-3700 MHz band more reliable. Moreover, by adopting clear, mandatory standards, the Commission will help licensees to ascertain their respective rights and obligations, and hence cut down on disputes that unnecessarily eat into Commission resources.

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<sup>26</sup> 47 C.F.R. § 90.1319(d) (proposed amendment).

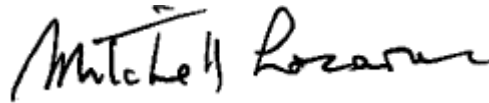
<sup>27</sup> *3650-3700 MHz Order* at ¶ 29 (emphasis added).



## CONCLUSION

Adoption of the minor wording changes set out here will improve the utility of the 3650-3700 MHz band for mobile broadband, fixed wireless broadband access, and backhaul, while retaining the advantages of the present licensing scheme. We ask the Commission to move forward with this proposal as quickly as possible.

Respectfully submitted,

A handwritten signature in black ink that reads "Mitchell Lazarus". The signature is written in a cursive style with a large initial "M".

Mitchell Lazarus  
FLETCHER, HEALD & HILDRETH, P.L.C.  
1300 North 17th Street, 11th Floor  
Arlington, VA 22209  
703-812-0440  
lazarus@fhhlaw.com  
Counsel for the Fixed Wireless  
Communications Coalition

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## COURTESY SERVICE LIST

Chairman Julius Genachowski  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

Commissioner Michael J. Copps  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

Commissioner Robert McDowell  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

Commissioner Mignon Clyburn  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

Commissioner Meredith Attwell Baker  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

Ruth Milkman, Chief  
Wireless Telecommunications Bureau  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

James Schlichting, Senior Deputy Bur. Chief  
Wireless Telecommunications Bureau  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

Joel Taubenblatt, Deputy Bureau Chief  
Wireless Telecommunications Bureau  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

Aaron Goldberger  
Senior Legal Advisor  
Wireless Telecommunications Bureau  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

Blaise Scinto, Chief  
Broadband Division  
Wireless Telecommunications Bureau  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554