

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

In the Matter of
Amendment of Part 101 of the Commission's
Rules to Accommodate 30 Megahertz Channels in
the 6525-6875 MHz Band
Amendment of Part 101 of the Commission's
Rules to Provide for Conditional Authorization on
Additional Channels in the 21.8-22.0 GHz and
23.0-23.2 GHz Band
Fixed Wireless Communications Coalition
Request for Waiver
WT Docket No. 09-114
RM-11417

NOTICE OF PROPOSED RULEMAKING AND ORDER

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**I. INTRODUCTION**

1. In this *Notice of Proposed Rule Making (NPRM)*, we seek comment on revisions to our rules governing terrestrial fixed wireless services in the 6 GHz and 23 GHz bands. First, we propose and seek comment on modifying the Commission’s Part 101 Rules to provide fixed terrestrial wireless licensees with authority to operate channels with wider bandwidths of as much as 30 megahertz in the 6525-6875 MHz band (Upper 6 GHz Band), in response to a petition for rulemaking filed by the Fixed Wireless Communications Coalition (FWCC), a coalition of companies, associations, and individuals interested in

terrestrial fixed microwave communications.<sup>1</sup> Second, we propose, on our own motion, to allow applicants to operate pursuant to conditional authority on two additional channels in the 21.8-22.0 GHz and 23.0-23.2 GHz band (23 GHz band).<sup>2</sup> We seek comment on whether these modifications would serve the public interest by facilitating the efficient use of the affected bands while continuing to protect other users from interference. Finally, in the *Order*, below, we grant a waiver request filed by FWCC that would allow licensees to operate pursuant to conditional authority in the 23 GHz band in a manner consistent with the rules that we have proposed for this band.<sup>3</sup>

## II. NOTICE OF PROPOSED RULEMAKING RELATING TO THE SIX GHZ BAND

### A. Background

#### 1. The 6 GHz Band

2. Most of the Part 101 Fixed Service 6 GHz Band is made up of two sub-bands, 5925-6425 MHz (Lower 6 GHz Band) and 6525-6875 MHz (Upper 6 GHz Band).<sup>4</sup> The Commission licenses terrestrial Fixed Services (FS) in both sub-bands, but there are several differences between them. The Commission issues licenses for satellite earth stations on a co-primary basis with FS in the Lower 6 GHz band,<sup>5</sup> but does not issue earth station licenses in the Upper 6 GHz Band. Lower 6 GHz channels are also available for television studio-to-transmitter links (STL) in the local television transmission service (LTTS); Upper 6 GHz channels are not.<sup>6</sup> In addition, the maximum authorized bandwidth differs by sub-band: 30 megahertz is the maximum bandwidth allowed in the Lower 6 GHz Band, and 10 megahertz is the maximum allowed in the Upper 6 GHz Band.<sup>7</sup> The Lower 6 GHz Band was historically assigned for wideband common carrier fixed use with 29.65 megahertz channels, while the Upper 6 GHz Band was

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<sup>1</sup> Fixed Wireless Communications Coalition Petition for Rulemaking (filed Feb. 4, 2008) (FWCC 6 GHz Petition). FWCC states that its 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. FWCC 6 GHz Petition at 1 n.1. FWCC states that its 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. *Id.*

<sup>2</sup> See 47 C.F.R. §§ 101.31(b)(1)(ii)-(vi), (viii). See also Fixed Wireless Communications Coalition Petition for Rulemaking (filed Nov. 7, 2007) (FWCC 23 GHz Petition).

<sup>3</sup> Fixed Wireless Communications Coalition Request for Waiver Pending Rulemaking (filed Nov. 7, 2007) (Waiver Request).

<sup>4</sup> See 47 C.F.R. § 101.147(i), (l). The 6425-6525 MHz band allows mobile operations and is shared with mobile stations licensed pursuant to Parts 74 and 78 of the Commission's Rules. See 47 C.F.R. § 101.147(j).

<sup>5</sup> 47 C.F.R. Part 25.202; 47 C.F.R. § 2.106. Satellite uplink channels at 5925-6425 MHz are paired with space-to-earth channels at 3700-4200 MHz. In combination, the two sets of channels are referred to as the C-band when used for satellite communications. See FCC Report to Congress as Required by the Orbit Act, *Ninth Report*, FCC 08-152 (rel. Jun. 18, 2008) at 4 n.19.

<sup>6</sup> 47 C.F.R. § 101.147(a) n.25.

<sup>7</sup> 47 C.F.R. § 101.109. The bandwidths for specific frequencies in the bands are specified in 47 C.F.R. §§ 101.147(i) and (l). Links with bandwidths of 0.4, 0.8, 1.6, 1.25, 2.5, 3.75, 5.0, and 10.0 MHz can be authorized in both bands. 47 C.F.R. §§ 101.147(i) and (l).

historically assigned for private use with narrower channels.<sup>8</sup> FWCC explains that fixed service bands such as the Lower 6 GHz Band and Upper 6 GHz Band 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 backhaul for wireless traffic.<sup>9</sup>

3. The Lower 6 GHz Band is increasingly congested. As of early May, 2009, there were 15,264 active FS licenses in the Lower 6 GHz Band.<sup>10</sup> Furthermore, the Lower 6 GHz Band also has 1,602 licensed satellite earth stations.<sup>11</sup> Each earth station is routinely coordinated for the entire 5925-6425 MHz band, and for the entire geosynchronous arc, even if the earth station actually communicates with only one transponder on one satellite.<sup>12</sup> Thus, a satellite earth station will place far greater limits on the ability to coordinate stations in adjacent areas than a terrestrial FS station, which is typically coordinated for a single channel, or a limited set of channels, with a narrow beamwidth. As noted above, existing rules also allow Lower 6 GHz FS stations to operate at up to triple the bandwidth authorized under existing Upper 6 GHz Band rules.<sup>13</sup>

4. The congestion in the Lower 6 GHz Band has led a number of applicants to seek licenses to operate in the Upper 6 GHz Band pursuant to waivers that permit them to operate FS stations in with bandwidths that are greater than the authorized 10 megahertz. As of May 11, 2009, the Commission had issued waivers authorizing 880 FS frequency paths with bandwidths greater than 10 megahertz in the Upper 6 GHz Band, of which 548 were authorized with 30 megahertz bandwidths. These waivers were granted upon showing that there were no channels available in the Lower 6 GHz Band, that other higher frequency bands were not suitable for the proposed path, and that there were no other alternatives.<sup>14</sup> While the waiver process has provided an alternative for applicants seeking wider bandwidths in the Upper 6 GHz, some licensees have argued that the waiver process has the disadvantages of delay and additional preparation costs.

5. If certain conditions are met, the Commission's rules provide that applicants for FS licenses under Part 101 may operate their proposed stations more quickly pursuant to conditional authority, although they do so at their own risk during the pendency of their applications.<sup>15</sup> One of those conditions is that the applicant has successfully completed the frequency coordination procedures specified in Section 101.103 of the Commission's Rules.<sup>16</sup> Conditional authority is not available, however, to applicants that must request waivers of existing rules.<sup>17</sup>

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<sup>8</sup> See *Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies*, ET Docket No. 92-9, *Third Further Notice of Proposed Rulemaking*, 7 FCC Rcd 6100, 6102 ¶¶ 10-11 (1992).

<sup>9</sup> FWCC 6 GHz Petition at 4.

<sup>10</sup> FCC Universal Licensing System (ULS) review conducted early May 2009.

<sup>11</sup> FCC International Bureau Electronic Filing System (MyIBFS) scan conducted early May 2009.

<sup>12</sup> See Reply Comments of the Fixed Wireless Communications Coalition (filed Apr. 30, 2008) (FWCC Reply Comments) at 5.

<sup>13</sup> See 47 C.F.R. § 101.109.

<sup>14</sup> See, e.g., Maryland Public Broadcasting Commission, *Memorandum Opinion and Order*, 21 FCC Rcd 1647, 1650 ¶ 7 (WTB BD 2006).

<sup>15</sup> 47 C.F.R. § 101.31(b)(1).

<sup>16</sup> 47 C.F.R. § 101.31(b)(1)(i).

<sup>17</sup> 47 C.F.R. § 101.31(b)(1)(iii).

## 2. Fixed Wireless Communications Coalition Petition

6. On February 4, 2008, FWCC filed a petition proposing that the Commission change its rules to allow channels with 30 megahertz bandwidths in the Upper 6 GHz Band.<sup>18</sup> Specifically, FWCC proposes that the Commission (1) amend Section 101.109(c) of its Rules to permit coordination and licensing of 30 megahertz channels in the Upper 6 GHz Band, (2) amend Section 101.147(a) of the Commission's rules to state that coordination of a 30 megahertz link in the Upper 6 GHz Band should be attempted only if the link cannot be accommodated in the Lower 6 GHz Band, and (3) amend Section 101.147(l) to specify frequency pairs for 30 megahertz channels, while retaining the present option of using narrowband channels and preserving frequencies that are presently allocated for emergency restoration.<sup>19</sup>

7. FWCC states that the 10 megahertz maximum on authorized bandwidths in the Upper 6 GHz Band prevents links in that sub-band from handling data rates of more than about 50 megabits per second (Mbits/s).<sup>20</sup> It asserts that larger bandwidths of up to 30 megahertz will allow the deployment of higher capacity broadband links and will enhance the delivery of critical infrastructure and business services when high-speed links are required over long distances.<sup>21</sup> It argues that the large number of earth stations in the Lower 6 GHz Band hinders coordination and sometimes prevents the installation of links at needed locations.<sup>22</sup> FWCC states the congestion in the Lower 6 GHz Band has driven applicants to seek waivers to operate at 30 megahertz bandwidths in the Upper 6 GHz Band.<sup>23</sup> FWCC acknowledges that the Commission has granted waivers for bandwidths greater than 10 megahertz in the Upper 6 GHz Band, but argues that the unavailability of conditional authorizations represents a serious disadvantage.<sup>24</sup> FWCC argues that FS facilities must often be installed on short notice to meet urgent public safety, infrastructure, and commercial needs, which makes conditional licensing important to industries and their customers.<sup>25</sup>

8. FWCC contends that applicants seeking to install high-speed links often have no alternative to the 6 GHz Band. It explains that signals at lower frequencies usually propagate further than those at higher frequencies, and for that reason are more suitable for long links.<sup>26</sup> Among the bands that have been allocated to fixed service, FWCC notes that the 2 GHz band, which has by far the best propagation characteristics, has been reallocated to satellite and mobile services.<sup>27</sup> FWCC states that the next best band for deployment of fixed services, based on propagation characteristics, is the 4 GHz band, but that coordination there is all but impossible nationwide, due to the "extreme" proliferation of registered receive-only satellite dishes in that band.<sup>28</sup> While it notes that vacant channels are available in the 11 and

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<sup>18</sup> FWCC 6 GHz Petition.

<sup>19</sup> *Id.* at 5. The 6535 MHz/6575 MHz channel pair is reserved for emergency restoration, maintenance bypass, and other temporary fixed purposes. *See* 47 C.F.R. § 101.147(l)(7) n.2.

<sup>20</sup> *Id.*

<sup>21</sup> FWCC 6 GHz Petition at 4, 6.

<sup>22</sup> *Id.* at 2.

<sup>23</sup> *Id.* at 2-3.

<sup>24</sup> *Id.* at 4

<sup>25</sup> *Id.*

<sup>26</sup> *Id.* at 3.

<sup>27</sup> *Id.*

<sup>28</sup> *Id.*

18 GHz bands, FWCC contends that atmospheric attenuation at those frequencies would require two or more shorter links to achieve the same throughput as a longer link at 6 GHz, with consequent higher costs.<sup>29</sup>

9. To ensure that assignments for 30 megahertz links in the Upper 6 GHz will only be granted in cases of necessity, FWCC proposes that a new note be added to Section 101.147(a) stating that location of a new 30 megahertz link in the Upper 6 GHz Band should be permitted only if it cannot be accommodated in the Lower 6 GHz Band.<sup>30</sup> FWCC notes that existing rules already set minimum bits-per-second and loading requirements for the entire 6 GHz Band, and thereby discourage applicants from seeking wide-bandwidth assignments when narrower bandwidths would meet their needs.<sup>31</sup>

10. Finally, FWCC proposes that Section 101.147(l) be amended by adding a new paragraph to designate 30 megahertz bandwidth paired channels (for 60 megahertz total) at 6555 and 6725 MHz, 6595 and 6755 MHz, 6625 and 6785 MHz, 6655 MHz and 6815 MHz, and 6685 MHz and 6845 MHz.<sup>32</sup> FWCC's proposed placement of those channels would avoid any overlap with the channels centered at 6535 and 6575 MHz which are reserved for emergency restoration, maintenance bypass, and other temporary fixed uses.<sup>33</sup>

### 3. Comments

11. The FWCC 6 GHz Petition was placed on public notice (*Public Notice*) for comment on February 28, 2008.<sup>34</sup> The Commission received six comments and three reply comments in response to the *Public Notice*.<sup>35</sup> The comments submitted in response to the *Public Notice* represent the views of an equipment manufacturer,<sup>36</sup> associations representing the fixed microwave community,<sup>37</sup> a frequency coordinator that specializes in spectrum management of terrestrial microwave, satellite, and mobile telecommunications systems,<sup>38</sup> and a telecommunications carrier.<sup>39</sup> The American Petroleum Institute

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<sup>29</sup> *Id.*

<sup>30</sup> *Id.* at 5.

<sup>31</sup> *Id.* at 5, *citing* 47 C.F.R. § 101.141(a)(3).

<sup>32</sup> *Id.*, Appendix.

<sup>33</sup> *See* FWCC Reply Comments at 7.

<sup>34</sup> Consumer & Governmental Affairs Bureau Reference Information Center Petition for Rulemaking Filed, *Public Notice*, Report No. 2852 (Feb. 28, 2008) (*Public Notice*).

<sup>35</sup> *See* Statement in Opposition, American Petroleum Institute Telecommunications Committee (API), (filed Mar. 31, 2008) (API Opposition); AT&T Inc., Comments (filed Mar. 31, 2008) (AT&T Comments); Comsearch, Comments (filed Mar. 28, 2008) (Comsearch Comments); Fixed Wireless Communications Coalition, Comments (Mar. 31, 2008) (FWCC Comments); Harris Stratex Networks, Inc. (Harris), Comments (filed Mar. 31, 2008) (Harris Comments); Radio Dynamics Corp., Comments (filed Mar. 31, 2008) (Radio Dynamics Comments); AT&T Inc., Reply Comments (filed Apr. 30, 2008) (AT&T Reply); Fixed Wireless Communications Coalition, Reply Comments (filed Apr. 30, 2008) (FWCC Reply); Reply of the Utilities Telecom Council (UTC) (filed Apr. 30, 2008) (UTC Reply).

<sup>36</sup> *See* Harris Stratex Networks Comments.

<sup>37</sup> *See* FWCC Comments and Reply Comments and UTC Reply Comments. UTC describes itself as the international trade association for the telecommunications and information technology interests of electric, gas and water utilities and other critical infrastructure industries. UTC Reply Comments at 1.

<sup>38</sup> *See* Comsearch Comments.



(API), a trade association representing the oil and natural gas industry, was the only commenting party opposing the FWCC 6 GHz Petition.<sup>40</sup>

12. AT&T, Comsearch, Harris, Radio Dynamics Corp., and UTC support FWCC's proposal.<sup>41</sup> Those parties agree that the necessity of seeking waivers, and consequent inability to obtain conditional authorizations before the Commission approves applications, cause delays that have a significant impact on deployment of new services.<sup>42</sup> They agree that there is rapidly increasing demand among wireless service providers for long-distance high-capacity links,<sup>43</sup> and that there is limited space available in bands below the Upper 6 GHz Band, especially in major metropolitan areas.<sup>44</sup> Commenters support FWCC's proposal that applicants for wide channels in the upper 6 GHz be required to demonstrate that the spectrum required is unavailable in the lower 6 GHz.<sup>45</sup> Comsearch approves of FWCC's proposed channelization scheme and notes that the 30 megahertz channel pairs that FWCC proposes are formed by an appropriate aggregation of underlying 10 megahertz channels and eliminate any overlap with the channels at 6535 MHz and 6575 MHz that are reserved for emergency restoration and maintenance purposes.<sup>46</sup>

13. API, however, argues that the Upper 6 GHz Band should be preserved for use by private operational fixed microwave licensees, including narrow bandwidth licensees that the Commission has required to vacate both the 1.9 GHz band and, more recently, the 2.1 GHz band.<sup>47</sup> API contends that allowing 30 megahertz licenses in the Upper 6 GHz Band could cause congestion and encourage speculative licensing.<sup>48</sup> API states that channel assignments for incumbent licensees in the 2.1 GHz band are generally limited to a maximum of 800 kHz, and that, as a consequence, those incumbents will not require 30 megahertz bandwidths when they are relocated.<sup>49</sup> API contends that the availability of 30 megahertz bandwidth channels in the lower 6 GHz is one of the reasons why the Lower 6 GHz Band has

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<sup>39</sup> See AT&T Comments and Reply Comments.

<sup>40</sup> See API Opposition.

<sup>41</sup> See generally AT&T Comments; Comsearch Comments; FWCC Comments; Harris Comments; Radio Dynamics Corp. Comments; AT&T Reply Comments; FWCC Reply Comments; UTC Reply Comments.

<sup>42</sup> See AT&T Comments at 1-2; Comsearch Comments at 1; Harris Comments at 2-3; Radio Dynamics Corp. Comments at 3; AT&T Reply Comments at 3-4; FWCC Reply Comments at 2-3; UTC Reply Comments at 3.

<sup>43</sup> See AT&T Comments at 2; UTC Reply Comments at 2-3.

<sup>44</sup> See AT&T Comments at 2; FWCC Comments at 2; Harris Comments at 2; Radio Dynamics Comments at 2; UTC Reply Comments at 3. API also agrees that the lower 6 GHz is badly congested, though it opposes FWCC's proposal. API Opposition at 3.

<sup>45</sup> See AT&T Comments at 3; Comsearch Comments at 2; FWCC Reply Comments at 2. Comsearch suggests that the Commission could also require a showing that the 10.7-11.7 GHz band is not suitable for the link in question. Comsearch Comments at 2 n.2.

<sup>46</sup> Comsearch Comments at 2. See 47 C.F.R. § 101.147(l) n.2.

<sup>47</sup> API Opposition at 3, citing Amendment to the Commission's Rules to Establish New Personal Communications Services, 10 FCC Rcd 7955 (1995); Redevelopment of Spectrum to Encourage Innovation in the Use of New Technologies, 7 FCC Rcd 6886 (1992). API notes that the final deadline for incumbent licensees to relocate from the 2.1 GHz band is 2016. *Id.* n.10, citing Services Rules for Advanced Wireless Services, 17 FCC Rcd 24135 ¶ 43 (2002).

<sup>48</sup> API Opposition at 4.

<sup>49</sup> *Id.* at 3-4.

become congested, and that making such wide channels available in the upper 6 GHz would lead to similar congestion in the upper 6 GHz.<sup>50</sup> That, in turn, it argues, could frustrate efforts to relocate displaced licensees from the 2.1 GHz band, potentially requiring them to resort to bands that cannot support the long signal paths that are feasible at 6 GHz.<sup>51</sup>

14. FWCC and AT&T argue that API's concerns are misplaced. FWCC contends that the main source of congestion in the lower 6 GHz is satellite earth stations.<sup>52</sup> FWCC contends that the Upper 6 GHz Band will probably not become seriously congested, whether or not 30 megahertz bandwidths are authorized, because satellite earth stations are not authorized in the Upper 6 GHz Band.<sup>53</sup> FWCC also believes that the Commission's existing buildout and loading rules are sufficient to prevent speculative licensing.<sup>54</sup> AT&T argues that the proposed rule changes would not frustrate the relocation plans of licensees that are forced to relocate from the 1.9 GHz and 2.1 GHz bands because, under existing rules, new licensees will be required to compensate displaced incumbents for the cost of relocations, regardless of whether the incumbent is relocated to a single link in the 6 GHz band or multiple links in a higher band that requires shorter spacing between transmitters and receivers.<sup>55</sup>

## B. Discussion

15. We propose to modify the Commission's Rules to authorize 30 megahertz channels in the Upper 6 GHz Band, as reflected in the proposed rules set forth in Appendix A. We find such action could serve the public interest by making more readily available an additional source of spectrum for high-speed microwave links. As FWCC states, such links support a variety of important commercial, public safety, and consumer uses, including backhaul for broadband systems. Furthermore, the high number of waiver requests we have received to allow licensing of channels greater than 10 megahertz in the Upper 6 GHz Band is evidence of a notable demand for wider channels in this band.<sup>56</sup> We have already approved waivers for many applicants based on their showings that the applicants had no available alternative to operating in the Upper 6 GHz Band. We seek comment on this proposal.

16. We also seek comment on API's concerns that allowing 30 megahertz channels in the Upper 6 MHz Band could lead to congestion and speculative licensing. In particular, we ask commenters to indicate whether waiver requests the Bureau has granted for 30 megahertz channels in the Upper 6 MHz Band have caused problems to relocating licensees. Further, we ask commenters to indicate whether the Upper 6 GHz Band has any special characteristics that would cause it to be particularly susceptible to speculative licensing. We note that thirty megahertz channels in the 6 GHz band are already required to have a minimum payload capacity of 134.1 Mbits/s, and they must load at least 50 percent of that capacity

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<sup>50</sup> *Id.* at 4.

<sup>51</sup> *Id.*

<sup>52</sup> FWCC Reply Comments at 5.

<sup>53</sup> See FWCC Comments at 2 and Reply Comments at 5. See also 47 C.F.R. § 101.115 (default maximum beamwidth for FS stations in 6 GHz band is 2.2 degrees).

<sup>54</sup> FWCC Reply Comments at 5, citing 47 C.F.R. §§ 101.63(a) (requiring stations to be constructed within 18 months of license grant), 101.63(c) (license automatically terminates for failure to timely begin operation), 101.141(a)(3) (establishing minimum payload capacities for various bandwidths).

<sup>55</sup> AT&T Reply Comments at 4-5, citing 47 C.F.R. §§ 24.239, 101.75(a).

<sup>56</sup> As mentioned earlier, the Commission has granted 880 waivers to allow FS frequency paths greater than 10 megahertz in the Upper 6 GHz Band, 548 of them have been for 30 megahertz channels.



within 30 months after they are licensed.<sup>57</sup> In addition, our rules require FS links in the 6 GHz band to have a minimum path length of 17 kilometers (km).<sup>58</sup> We seek comment on whether these requirements provide assurance that spectrum in the Upper 6 GHz Band will be used efficiently.

17. We also seek comment on whether additional requirements are necessary to ensure efficient usage, in the event that we allow 30 megahertz channels in the Upper 6 MHz Band. In particular, we seek comment on FWCC's proposal that we require applicants for 30 megahertz channels in the Upper 6 GHz Band to demonstrate that the requisite paths are not available in the Lower 6 GHz Band, as well as Comsearch's suggestion to require a showing that channels in the 10.7-11.7 GHz band would not be available or sufficiently reliable.<sup>59</sup>

18. In addition, we seek comment on whether authorizing 30 megahertz channels in the Upper 6 GHz Band would adversely impact the relocation of narrow-bandwidth links from other bands. We note API's concerns that sufficient spectrum be preserved to accommodate relocation of narrow-bandwidth links from other bands. We also note AT&T's assertion that most of the cost of relocating such licensees to higher bands, if that proves necessary, will fall upon the providers of emerging technologies that are newly licensed to the reallocated bands, not upon the displaced incumbents.<sup>60</sup>

19. Further, we seek comment on the specific channel plan proposed by FWCC, which envisions 30 megahertz bandwidth paired channels (for 60 megahertz total for each authorized path) at 6555 and 6725 MHz, 6595 and 6755 MHz, 6625 and 6785 MHz, 6655 MHz and 6815 MHz, and 6685 MHz and 6845 MHz.<sup>61</sup> We note that Comsearch and Harris support this proposal.<sup>62</sup> We also seek comment on alternative band plans, in particular whether additional channel bandwidths besides 30 megahertz are needed.

### **III. NOTICE OF PROPOSED RULEMAKING ON CONDITIONAL LICENSING OF ADDITIONAL CHANNEL PAIRS IN THE 23 GHZ BAND**

#### **A. Background**

20. The Commission's rules provide for conditional authorization of fixed microwave links, allowing the license applicant to begin operating a link as soon as the application is filed, if the link has been frequency coordinated and certain other conditions are met.<sup>63</sup> The frequencies in the 23 GHz band are shared by federal and non-federal users.<sup>64</sup> For this reason, conditional authority in the band is limited to frequencies for which the Commission has an agreement with the National Telecommunications and

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<sup>57</sup> 47 C.F.R. § 101.141(a)(3).

<sup>58</sup> 47 C.F.R. § 101.143(a).

<sup>59</sup> See FWCC Six-MHz Petition at 5; Comsearch Comments at 2 n.2.

<sup>60</sup> See AT&T Reply Comments at 4-5, citing 47 C.F.R. §§ 24.239, 101.75(a).

<sup>61</sup> FWCC 6 GHz Petition at Appendix. Section 101.145(l) designates overlapping channel frequencies for several different bandwidths, i.e., the channel positions that we propose for 30 megahertz links would not preclude assignment of the same channel positions, at different locations, to links with different bandwidths.

<sup>62</sup> Comsearch Comments at 2; Harris Stratex Comments at 2.

<sup>63</sup> 47 C.F.R. § 101.31(b)(2). The applicant agrees to cease operation immediately if the application is dismissed or denied. 47 C.F.R. § 101.31(b)(3).

<sup>64</sup> See 47 C.F.R. § 2.106 (United States Table of Frequency Allocations).

Information Administration (NTIA) to permit conditional authorization.<sup>65</sup> Thus, in the 23 GHz band, conditional authority is currently limited to four channel pairs – 21.825/23.025 GHz, 21.875/23.075 GHz, 21.925/23.125 GHz, and 21.975/23.175 GHz – for non-federal applicants proposing to limit their equivalent isotropically radiated power (EIRP) to 55 dBm.<sup>66</sup>

21. On November 7, 2007, FWCC submitted a petition for rulemaking requesting that the Commission allow conditional licensing for non-federal use, with NTIA's consent, in two additional channel pairs in the 23 GHz band – the 22.025/23.225 GHz and 22.075/23.275 GHz channel pairs – for applicants proposing to limit their EIRP to 55 dBm.<sup>67</sup>

## B. Discussion

22. In response to FWCC's petition, we seek comment on whether to allow conditional authority on the 22.025/23.225 GHz and 22.075/23.275 GHz channel pairs for applicants proposing to limit their EIRP to 55 dBm, as set forth in the proposed rules in Appendix A.<sup>68</sup> Our decision to seek comment on this proposal is predicated on NTIA's lack of opposition, following our coordination with that agency, to our granting conditional authority with respect to these additional channel pairs.<sup>69</sup> The Commission has previously recognized that permitting conditional operation pending the approval of an application provides greater flexibility to Part 101 licensees and enables them to operate more efficiently.<sup>70</sup>

## IV. ORDER ON WAIVER REQUEST

23. On November 7, 2007, the same date that it filed its 23 GHz Petition, FWCC filed a request for a blanket waiver to implement conditional authority on these same two frequencies prior to the Commission completing its rulemaking to change its rules.<sup>71</sup> We may grant a request for a waiver when: (i) the underlying purpose of the rules(s) would not be served or would be frustrated by application to the instant case, and a grant of the requested waiver would be in the public interest; or (ii) in view of the unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome, or contrary to the public interest, or the applicant has no reasonable alternative.<sup>72</sup>

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<sup>65</sup> See Amendment of Part 101 of the Commission's Rules to Streamline Processing of Microwave Applications in the Wireless Telecommunications Services, WT Docket No. 00-19, *Report and Order*, 17 FCC Rcd 15040, 15066 ¶ 54 (2002) (*Part 101 R&O*).

<sup>66</sup> See 47 C.F.R. § 101.31(b)(1)(vii).

<sup>67</sup> Fixed Wireless Communications Coalition Petition for Rulemaking (filed Nov. 7, 2007) (FWCC 23 GHz Petition) at 1.

<sup>68</sup> We institute this section of this Notice of Proposed Rulemaking on our own motion, while our action is cognizant of the FWCC 23 GHz Petition. See 47 C.F.R. § 1.411 (no requirement that Commission follow procedures applicable to rulemaking commenced on the basis of a petition for rulemaking if the Commission commences a proceeding on its own motion). We also waive Section 1.403 to the extent, if any, that it requires us to put the FWCC 23 GHz Petition on public notice. We note that FWCC has stated that it would not object to such treatment. FWCC 23 GHz Petition at 6.

<sup>69</sup> This *NPRM and Order* has been coordinated with the Interdepartment Radio Advisory Committee of NTIA.

<sup>70</sup> See Reorganization and Revision of Parts 1, 2, 21, and 94 of the Rules to Establish a New Part 101 Governing Terrestrial Microwave Fixed Radio Services, WT Docket No. 94-148, *Report and Order*, 11 FCC Rcd 13449, 13461-13462 ¶¶ 26-27 (1996).

<sup>71</sup> Waiver Request.

<sup>72</sup> 47 C.F.R. § 1.925(b)(3).

24. We believe extending conditional authority would have significant public interest benefits. As FWCC has noted, FS facilities must often be installed on short notice to meet urgent public safety, infrastructure, and commercial needs, which makes conditional licensing important to industries and their customers.<sup>73</sup> Extending conditional authority would also allow licensees to place spectrum into use more quickly. Finally, we note that FS facilities are often used to provide backhaul and other support services to broadband providers, and extending conditional authority can support the Commission's goal of providing broadband to all Americans. Furthermore, we have coordinated our determination to grant this Waiver Request with NTIA, and it does not oppose grant of the request. Given NTIA's lack of opposition, we see no party that would be potentially harmed by grant of the Waiver Request. We note that the Commission may cancel conditional authority at any time,<sup>74</sup> and we will not hesitate to do so if we receive notification that operation pursuant to conditional authority is causing interference. Accordingly, effective on release of this Notice of Proposed Rulemaking, we will waive Section 101.31(b)(vii) of the Commission's rules to allow for conditional authority on the 22.025/23.225 GHz and 22.075/23.275 GHz channel pairs for non-federal applicants proposing to limit their equivalent isotropically radiated power (EIRP) to 55 dBm. Any applicant taking advantage of such conditional authority must comply with the applicable provisions of Section 101.31 of the Commission's rules. Any authorizations granted pursuant to this Waiver Request will be conditioned on the outcome of this rulemaking proceeding.

## V. PROCEDURAL MATTERS

### A. *Ex Parte* Rules – Permit-But-Disclose

25. This is a permit-but-disclose notice and comment rulemaking proceeding. *Ex parte* presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed pursuant to the Commission's rules.<sup>75</sup>

### B. Comment Period and Procedures

26. Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R §§ 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using: (1) the Commission's Electronic Comment Filing System (ECFS), (2) the Federal Government's eRulemaking Portal, or (3) by filing paper copies. See Electronic Filing of Documents in Rulemaking Proceedings, 63 FR 24121 (1998).

27. *Electronic Filers*: Comments may be filed electronically using the Internet by accessing the ECFS: <http://www.fcc.gov/cgb/ecfs/> or the Federal eRulemaking Portal: <http://www.regulations.gov>. Filers should follow the instructions provided on the website for submitting comments. For ECFS filers, if multiple docket or rulemaking numbers appear in the caption of this proceeding, filers must transmit one electronic copy of the comments for each docket or rulemaking number referenced in the caption. In completing the transmittal screen, filers should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions, filers should send an e-mail to [ecfs@fcc.gov](mailto:ecfs@fcc.gov), and include the following words in the body of the message, "get form." A sample form and directions will be sent in response.

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<sup>73</sup> FWCC 6 GHz Petition at 4.

<sup>74</sup> See 47 C.F.R. § 101.31(b)(3).

<sup>75</sup> See generally 47 C.F.R. §§ 1.1202, 1.1203, 1.1206.

28. *Paper Filers*: Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number. Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission. The Commission's contractor will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, NE, Suite 110, Washington, DC 20002. The filing hours at this location are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building. Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743. U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington DC 20554.

29. *People with Disabilities*: To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to [fcc504@fcc.gov](mailto:fcc504@fcc.gov) or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (tty).

30. The public may view the documents filed in this proceeding during regular business hours in the FCC Reference Information Center, Federal Communications Commission, 445 12th Street, S.W., Room CY-A257, Washington, D. C. 20554, and on the Commission's Internet Home Page: <http://www.fcc.gov>. Copies of comments and reply comments are also available through the Commission's duplicating contractor: Best Copy and Printing, Inc., 445 12th Street, SW, Room CY-B402, Washington, DC, 20554, 1-800-378-3160.

### **C. Initial Regulatory Flexibility Analysis**

31. As required by the Regulatory Flexibility Act of 1980 (RFA),<sup>76</sup> the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities of the policies and rules proposed in the *NPRM*. The analysis is found in Appendix B. We request written public comment on the analysis. Comments must be filed by the same dates as listed in the first page of this document, and must have a separate and distinct heading designating them as responses to the IRFA. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, will send a copy of this *NPRM*, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.

### **D. Initial Paperwork Reduction Analysis**

32. This document does not contain proposed information collection(s) subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. In addition, therefore, it does not contain any new or modified "information collection burden for small business concerns with fewer than 25 employees," pursuant to the Small Business Paperwork Relief Act of 2002.<sup>77</sup>

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<sup>76</sup> 5 U.S.C. § 603.

<sup>77</sup> Public Law 107-198; *see* 44 U.S.C. § 3506(c)(4).

**E. Further Information**

33. For further information concerning this rulemaking proceeding, contact Charles Oliver, Wireless Telecommunications Bureau, at (202) 418-1325, Federal Communications Commission, 445 12<sup>th</sup> Street, S.W., Washington, D.C. 20554; or via the Internet to Charles.Oliver@fcc.gov.

**VI. ORDERING CLAUSES**

34. Accordingly, IT IS ORDERED, pursuant to Sections 1, 2, 4(i), 7, 10, 201, 214, 301, 302, 303, 307, 308, 309, 310, 319, 324, 332 and 333 of the Communications Act of 1934, 47 U.S.C. §§ 151, 152, 154(i), 157, 160, 201, 214, 301, 302, 303, 307, 308, 309, 310, 319, 324, 332, 333, that this Notice of Proposed Rulemaking is hereby ADOPTED.

35. IT IS FURTHER ORDERED that NOTICE IS HEREBY GIVEN of the proposed regulatory changes described in this Notice, and that comment is sought on these proposals.

36. IT IS FURTHER ORDERED, pursuant to Section 4(i) of the Communications Act of 1934, 47 U.S.C. § 154(i), and Section 1.925 of the Commission's Rules, 47 C.F.R. § 1.925, that the Request for Waiver Pending Rulemaking filed by the Fixed Wireless Communications Coalition on November 7, 2007 IS GRANTED, and Section 101.31(b)(vii) of the Commission's Rules IS WAIVED to allow for conditional authority on the 22.025/23.225 GHz and 22.075/23.275 GHz channel pairs for non-federal applicants proposing to limit their equivalent isotropically radiated power (EIRP) to 55 dBm.

37. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Notice, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch  
Secretary

## APPENDIX A

## Proposed Rules

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

**I. PART 101 – FIXED MICROWAVE SERVICES**

1. The authority citation for Part 101 continues to read as follows: AUTHORITY: 47 U.S.C. 154, 303.

2. Amend § 101.31(b)(1)(vii) to read as follows:

**§ 101.31 Temporary and conditional authorizations.**

\*\*\*\*\*

(b) \*\*\*

(1) \*\*\*

(vii) With respect to the 21.8-22.0 GHz and 23.0-23.2 GHz band, the filed application(s) does not propose to operate on a frequency pair centered on other than 21.825/23.025 GHz, 21.875/23.075 GHz, 21.925/23.125 GHz, 21.975/23.175 GHz, 22.025/23.225 GHz or 22.075/23.275 GHz and does not propose to operate with an E.I.R.P. greater than 55 dBm. The center frequencies are shifted from the center frequencies listed above for certain bandwidths as follows: add 0.005 GHz for 20 MHz bandwidth channels, add 0.010 GHz for 30 megahertz bandwidth channels, and subtract 0.005 GHz for 40 MHz bandwidth channels. *See* specific channel listings in §101.147(s).

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3. Amend § 101.109(c) by revising the table to read as follows:

**§ 101.109 Bandwidth.**

\*\*\*\*\*

(c) \*\*\*

\*\*\*\*\*

6,525 to 6,875 ..... 30 MHz<sup>1</sup>

\*\*\*\*\*

3. Amend § 101.147 by revising the table in paragraph (a), adding a new note (33) in paragraph (a), and by adding a new paragraph (l)(8) to read as follows:

**§ 101.147 Frequency Assignments**

\*\*\*\*\*

(a) \*\*\*



\*\*\*\*\*

6,525-6,875 MHz (14) (33)

\*\*\*\*\*

(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.

\*\*\*\*\*

(1) \*\*\*

(8) 30 MHz bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
6555.....	6725
6595.....	6755
6525.....	6785
6655.....	6815
6685.....	6845

## APPENDIX B

## Initial Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act of 1980, as amended (RFA),<sup>1</sup> the Commission has prepared this present Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in this *Notice of Proposed Rule Making (NPRM)*. Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines specified in the *2nd FNPRM* for comments. The Commission will send a copy of this *NPRM*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).<sup>2</sup> In addition, the *NPRM* and IRFA (or summaries thereof) will be published in the Federal Register.<sup>3</sup>

**A. Need for, and Objectives of, the Proposed Rules**

In this *NPRM*, we seek comment on a petition for rulemaking filed by the Fixed Wireless Communications Coalition (FWCC) on February 4, 2008,<sup>4</sup> and on a rule change that we propose on our own motion.

The FWCC 6 GHz Petition requests that the Commission initiate a rulemaking to change its Rules to allow channels with bandwidths of as much as 30 megahertz in the 6525-6875 MHz band (Upper 6 GHz Band).<sup>5</sup> Specifically, FWCC proposes to amend Section 101.109(c) of the Commission's Rules to permit coordination and licensing of 30 megahertz channels in the Upper 6 GHz Band, amend Section 101.147(a) of the Commission's Rules to clarify that coordination of a 30 megahertz link in the Upper 6 GHz Band should be attempted only if the link cannot be accommodated in the 5925-6425 MHz band, and amend Section 101.147(l) of the Commission's Rules to specify frequency pairs for 30 megahertz channels, while retaining the present option of using narrowband channels and preserving frequencies that are presently allocated for emergency restoration.<sup>6</sup>

The Lower 6 GHz Band, where 30 megahertz channels are allowed, is increasingly congested. As of early May, 2009, there were 15,264 active FS licenses in the Lower 6 GHz Band.<sup>7</sup> Furthermore, the Lower 6 GHz Band also has 1,602 licensed satellite earth stations.<sup>8</sup> Each earth station is routinely coordinated for the entire 5925-6425 MHz band, and for the entire geosynchronous arc, even if the earth station actually communicates with only one transponder on one satellite.<sup>9</sup> Thus, a satellite earth station

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<sup>1</sup> See 5 U.S.C. § 603. The RFA, see 5 U.S.C. § 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996, (SBREFA) Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

<sup>2</sup> See 5 U.S.C. § 603(a).

<sup>3</sup> See 5 U.S.C. § 603(a).

<sup>4</sup> Fixed Wireless Communications Coalition Petition for Rulemaking (filed February 4, 2008) (FWCC Six-MHz Petition or Six-MHz Petition for Rulemaking).

<sup>5</sup> FWCC Six-MHz Petition.

<sup>6</sup> *Id.* at 5.

<sup>7</sup> FCC Universal Licensing System (ULS) review conducted early May 2009.

<sup>8</sup> FCC International Bureau Electronic Filing System (MyIBFS) scan conducted early May 2009.

<sup>9</sup> See Reply Comments of the Fixed Wireless Communications Coalition (filed Apr. 30, 2008) (FWCC Reply Comments) at 5.

will place far greater limits on the ability to coordinate stations in adjacent areas than a terrestrial FS station, which is typically coordinated for a single channel, or a limited set of channels, with a narrow beamwidth.

The congestion in the Lower 6 GHz Band has led a number of applicants to seek licenses to operate in the Upper 6 GHz Band pursuant to waivers that permit them to operate FS stations with bandwidths that are greater than the authorized 10 megahertz. As of May 11, 2009, the Commission had issued waivers authorizing 880 FS frequency paths with bandwidths greater than 10 megahertz in the Upper 6 GHz Band, of which 548 were authorized with 30 megahertz bandwidths. These waivers were granted upon showing that there were no channels available in the Lower 6 GHz Band, that other higher frequency bands were not suitable for the proposed path, and that there were no other alternatives.<sup>10</sup>

Allowing channels with bandwidths of as much as 30 megahertz in the Upper 6 GHz Band by rule could meet a variety of needs. Such action could serve the public interest by making more readily available an additional source of spectrum for high-speed microwave links, which are used for a variety of important commercial, public safety, and consumer uses, including backhaul for broadband systems. Furthermore, the high number of waiver requests we have received to allow licensing of channels greater than 10 megahertz in the Upper 6 GHz Band is evidence of a notable demand for wider channels in this band. On the other hand, the American Petroleum Institute (API) has expressed concern that allowing 30 megahertz licenses in the Upper 6 GHz Band could cause congestion, encourage speculative licensing, and make it more difficult for licensees to relocate out of the 2 GHz Band that has been reallocated for advanced technologies.<sup>11</sup> The objective of the proposed rule is to provide the benefits of wider channels while avoiding the potential problems noted by API. We believe that increasing congestion in the Lower 6 GHz Band could justify expanding the maximum allowable bandwidth in the Upper 6 GHz Band to 30 megahertz. We also seek comment on concerns raised by the American Petroleum Institute Telecommunications Subcommittee that adopting these rules might lead to additional congestion in the upper 6 GHz band, cause speculative applications to be filed, and make it more difficult for applicants proposing narrower bandwidth links to coordinate their proposals with licensees in the Upper 6 GHz Band.

We also propose, on our own motion, to allow conditional licensing on two additional channel pairs for non-federal use in the 23 GHz band, if the National Telecommunications and Information Administration (NTIA) approves, for applicants proposing to limit their effective isotropically radiated power (E.I.R.P.) to 55 dBm.

If certain conditions are met, the Commission's rules provide that applicants for FS licenses under Part 101 may operate their proposed stations more quickly pursuant to conditional authority, although they do so at their own risk during the pendency of their applications.<sup>12</sup> Before exercising conditional authority, the applicant must successfully complete frequency coordination to ensure that the proposed facilities will not cause interference to other authorized facilities.<sup>13</sup> Conditional authority ceases immediately if an application is returned as unacceptable for filing.<sup>14</sup> The Commission's rules also

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<sup>10</sup> See, e.g., Maryland Public Broadcasting Commission, *Memorandum Opinion and Order*, 21 FCC Rcd 1647, 1650 ¶ 7 (WTB BD 2006).

<sup>11</sup> API Opposition at 4.

<sup>12</sup> 47 C.F.R. § 101.31(b)(1).

<sup>13</sup> See 47 C.F.R. 101.31(b)(1)(i).

<sup>14</sup> See 47 C.F.R. 101.31(b)(2).

provide that “conditional authority may be modified or cancelled by the Commission at any time without hearing if, in the Commission’s discretion, the need for such action arises.”<sup>15</sup>

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 backhaul for wireless traffic. Conditional authority allows an applicant to provide those types of services expeditiously before the Commission acts on its application. Because the 23 GHz Band is shared between federal and non-federal use, conditional authority in that band is limited to frequencies for which the Commission has an agreement with NTIA to permit conditional authorization.<sup>16</sup> NTIA has not stated any objection to allowing conditional licensing on the additional two channel pairs. We therefore propose to add the 22.025/23.225 GHz and 22.075/23.275 GHz channel pairs to the list of frequencies on which we allow conditional authority. Such action would allow all licensees to provide service more rapidly (subject to the normal limitations on conditional authority noted above) while protecting existing licensees. We seek comment on allowing conditional authority on a permanent basis.

## **B. Legal Basis**

The proposed action is authorized pursuant to sections 1, 2, 4(i), 7, 10, 201, 214, 301, 302, 303, 307, 308, 309, 310, 319, 324, 332 and 333 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 152, 154(i), 157, 160, 201, 214, 301, 302, 303, 307, 308, 309, 310, 319, 324, 332, and 333.

## **C. Description and Estimate of the Number of Small Entities To Which the Proposed Rules Will Apply**

The RFA directs agencies to provide a description of, and where feasible, an estimate of the number of small entities that may be affected by the proposed rules and policies, if adopted.<sup>17</sup> The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”<sup>18</sup> In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.<sup>19</sup> A “small business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.<sup>20</sup>

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<sup>15</sup> See 47 C.F.R. § 101.31(b)(3).

<sup>16</sup> See Amendment of Part 101 of the Commission’s Rules to Streamline Processing of Microwave Applications in the Wireless Telecommunications Services, WT Docket No. 00-19, *Report and Order*, 17 FCC Rcd 15040, 15066 ¶ 54 (2002) (*Part 101 R&O*).

<sup>17</sup> 5 U.S.C. § 603(b)(3).

<sup>18</sup> 5 U.S.C. § 601(6).

<sup>19</sup> 5 U.S.C. § 601(3) (incorporating by reference the definition of “small-business concern” in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.”

<sup>20</sup> 15 U.S.C. § 632.

Nationwide, there are a total of approximately 22.4 million small businesses, according to SBA data.<sup>21</sup> A “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”<sup>22</sup> Nationwide, as of 2002, there were approximately 1.6 million small organizations.<sup>23</sup> The term “small governmental jurisdiction” is defined generally as “governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.”<sup>24</sup> Census Bureau data for 2002 indicate that there were 87,525 local governmental jurisdictions in the United States.<sup>25</sup> We estimate that, of this total, 84,377 entities were “small governmental jurisdictions.”<sup>26</sup> Thus, we estimate that most governmental jurisdictions are small.

*Wireless Telecommunications Carriers (except satellite).* Microwave services include common carrier,<sup>27</sup> private-operational fixed,<sup>28</sup> and broadcast auxiliary radio services.<sup>29</sup> At present, there are approximately 36,708 common carrier fixed licensees and 59,291 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services. The Commission has not yet defined a small business with respect to microwave services. For purposes of the IRFA, we will use the SBA’s definition applicable to Wireless Telecommunications Carriers (except satellite) – *i.e.*, an entity with no more than 1,500 persons.<sup>30</sup> The Commission’s most recent data were acquired when “Cellular and Other Wireless Telecommunications Companies” was the applicable industry category.<sup>31</sup> Census Bureau data for 2002 show that there were 1,397 firms in this category that operated for the entire year.<sup>32</sup> Of this total, 1,378 firms had employment of 999 or fewer employees, and 19 firms had employment of 1,000

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<sup>21</sup> See SBA, Programs and Services, SBA Pamphlet No. CO-0028, at page 40 (July 2002).

<sup>22</sup> 5 U.S.C. § 601(4).

<sup>23</sup> Independent Sector, *The New Nonprofit Almanac & Desk Reference* (2002).

<sup>24</sup> 5 U.S.C. § 601(5).

<sup>25</sup> U.S. Census Bureau, *Statistical Abstract of the United States: 2006*, Section 8, page 272, Table 415.

<sup>26</sup> We assume that the villages, school districts, and special districts are small, and total 48,558. See U.S. Census Bureau, *Statistical Abstract of the United States: 2006*, section 8, page 273, Table 417. For 2002, Census Bureau data indicate that the total number of county, municipal, and township governments nationwide was 38,967, of which 35,819 were small. *Id.*

<sup>27</sup> 47 C.F.R. Part 101 *et seq.* (formerly, part 21 of the Commission’s Rules) for common carrier fixed microwave services (except MDS).

<sup>28</sup> Persons eligible under Parts 80 and 90 of the Commission’s rules can use Private-Operational Fixed Microwave services. See 47 C.F.R. Parts 80 and 90. Stations in this service are called operational-fixed to distinguish them from common carrier and public fixed stations. Only the licensee may use the operational-fixed station, and only for communications related to the licensee’s commercial, industrial, or safety operations.

<sup>29</sup> Auxiliary Microwave Service is governed by Part 74 of Title 47 of the Commission’s Rules. See 47 C.F.R. Part 74 *et seq.* Available to licensees of broadcast stations and to broadcast and cable network entities, broadcast auxiliary microwave stations are used for relaying broadcast television signals from the studio to the transmitter, or between two points such as a main studio and an auxiliary studio. The service also includes mobile TV pickups, which relay signals from a remote location back to the studio.

<sup>30</sup> 13 C.F.R. § 121.201, NAICS code 517210.

<sup>31</sup> 13 C.F.R. § 121.201, NAICS code 517212 (2005).

<sup>32</sup> U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization,” Table 5, NAICS code 517212 (issued Nov. 2005).

employees or more.<sup>33</sup> Thus, under this size standard, the majority of firms can be considered small. We note that the number of firms does not necessarily track the number of licensees. We estimate that all of the Fixed Microwave licensees (excluding broadcast auxiliary licensees) would qualify as small entities under the SBA definition.

**D. Description of Projected Reporting, Recordkeeping, and other Compliance Requirements**

This *NPRM* proposes no new reporting or recordkeeping requirements.

**E. Steps taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered**

The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof for small entities.<sup>34</sup>

As noted above, this *NPRM* proposes rules to provide applicants with improved access to spectrum that is presently restricted with respect to bandwidth or that requires completion of frequency coordination with NTIA before the applicant can begin operations on a conditional basis. As noted above, virtually all microwave licensees under Part 101 of the Commission's Rules are considered small businesses. Under our rules, the opportunities to apply for 30 megahertz channels in the Upper 6 GHz Band and to take advantage of conditional authority 22.025/23.225 GHz and 22.075/23.275 GHz channel pairs would be equally available to all applicants, including small businesses.<sup>35</sup> Thus, this proposed action would provide additional options to all licensees, including small entity licensees. In this *NPRM*, we seek comment on these proposed actions. Such action could serve the public interest by facilitating the efficient use of the 6 GHz and 23 GHz bands. The proposed rules could therefore open up economic opportunities to a variety of spectrum users, including small businesses.

The alternative approach would be to maintain the existing rules. If the rules were not changed to provide for 30 megahertz channels in the Upper 6 GHz Band, applicants who wished to obtain such channels would have to take additional time and money to prepare a request for waiver of the Commission's Rules. Such additional time and expense may be particularly disadvantageous to small businesses. Furthermore, because a waiver request would be required, applicants cannot commence operation until the Commission grants their waiver request and application. The resulting delay can make it more difficult for applicants to meet their communications needs or the needs of their customers. With respect to the 23 GHz Band, the alternative approach would be to deny conditional authority on the two additional channel pairs and require applicants to wait until the Commission grants their application before they can commence service. Again, the resulting delay can make it more difficult for applicants to meet their communications needs or the needs of their customers.

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<sup>33</sup> *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "1000 employees or more."

<sup>34</sup> 5 U.S.C. § 603(c).

<sup>35</sup> See Appendix A.



**F. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules**

None.

**APPENDIX C****List of Commenters on FWCC 6 GHz Petition****Comments**

American Petroleum Institute Telecommunications Committee (API)  
AT&T Inc. (AT&T)  
Comsearch  
Fixed Wireless Communications Coalition (FWCC)  
Harris Stratex Networks, Inc. (Harris)  
Radio Dynamics Corp. (Radio Dynamics)

**Reply Comments**

AT&T Inc.  
Fixed Wireless Communications Coalition  
Utilities Telecom Council (UTC)