

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

In the Matter of
Rechannelization of the 17.7-19.7 GHz
Frequency Band for Fixed Microwave Services
under Part 101 of the Commission's Rules
WT Docket No. 04-143

REPORT AND ORDER

Adopted: September 22, 2006

Released: September 29, 2006

By the Commission: Commissioner Adelstein issuing a separate statement.

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## I. INTRODUCTION AND EXECUTIVE SUMMARY

1. In this *Report and Order*, we revise our rules to reduce regulatory burdens for 18 GHz band<sup>1</sup> terrestrial Fixed Microwave Services (FS) licensees that are subject to involuntary relocation from the 18.3-19.3 GHz band pursuant to the Commission's reallocation of that band for exclusive satellite services use in IB Docket No. 98-172.<sup>2</sup> These FS licensees will relocate to spectrum at 17.7-18.3 GHz and 19.3-19.7 GHz, where Part 101 currently designates channel sizes that are too large relative to the needs of some relocating point-to-point microwave licensees and too small relative to the needs of relocating private cable operators (PCOs) and other multichannel video programming distributors (MVPDs). The instant *Report and Order* revises the rules to add new channel sizes in both bands along with special rules for MVPDs within the 17.7-18.3 GHz band, thereby facilitating the relocation.

2. In this *Report and Order* we adopt the following actions regarding FS channels in the terrestrial 18 GHz band:

- We adopt a revised band plan for the FS paired and unpaired spectrum from 17.7-18.3 GHz and 19.3-19.7 GHz, consisting of a variety of channel bandwidths, primarily narrower bandwidths, and a block of unpaired spectrum from 17.7-17.74 GHz.
- We designate a contiguous 600 megahertz block of one-way spectrum from 17.7-18.3 GHz for use by MVPDs, who will have flexibility within such block to determine the appropriate bandwidths and other technical parameters of their MVPD operations.
- In the 17.7-17.8 GHz band, we protect Federal earth stations in the fixed-satellite service (space-to-Earth) that may be authorized in Denver, Colorado, and Washington, D.C., and require all MVPD applications (under Parts 74, 78, or 101) within the 17.7-17.8 GHz band near those areas to be coordinated with the Federal Government by the Commission before an authorization will be issued.<sup>3</sup>
- We provide channel flexibility to grandfathered MVPDs in the 18.3-18.58 GHz band, which was previously designated for non-primary use by MVPDs.

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<sup>1</sup> The term "18 GHz band" refers to those frequencies between 17.7 and 19.7 GHz. Herein, we use the term "terrestrial 18 GHz band" to refer to those frequencies between 17.7-18.3 GHz and between 19.3-19.7 GHz that are allocated on a co-primary basis for the following terrestrial services: Fixed Microwave Services (FS) under Part 101, Cable Television Relay Service ("CARS") under Part 78, and Broadcast Auxiliary Services ("BAS") under Part 74. We recognize that 17.7-18.3 GHz and 19.3-19.7 GHz are also allocated on a co-primary basis for satellite services; we are using the term "terrestrial 18 GHz band" herein for convenience only given that the instant re-channelization concerns terrestrial services under Part 101.

<sup>2</sup> See Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use, IB Docket No. 98-172, *Report and Order*, 15 FCC Rcd 13430 (2000) ("*18 GHz SAT R&O*"), *recon. granted in part, First Order on Reconsideration*, 16 FCC Rcd 19808 (2001), *further recon. granted in part, Second Order on Reconsideration*, 17 FCC Rcd 24248 (2002) ("*Second Order on Reconsideration*"), *further recon. denied, Third Order on Reconsideration*, 19 FCC Rcd 10777 (2003) ("*Third Order on Reconsideration*").

<sup>3</sup> The National Telecommunications and Information Administration (NTIA) filed a letter with the Commission, dated March 3, 2006, requesting that we protect certain Federal operations. See ¶¶ 20-23, *infra*.

## II. BACKGROUND

3. *Reallocation from Terrestrial Services to Satellite Services (18 GHz SAT R&O)*. Previously, in a separate proceeding, the Commission reallocated portions of the 18 GHz band to accommodate sharing among the terrestrial, Geostationary Satellite Orbit Fixed-Satellite Service (“GSO/FSS”), Non-Geostationary Satellite Orbit Fixed-Satellite Service (“NGSO/FSS”), and Mobile-Satellite Service feeder links (“MSS/FL”).<sup>4</sup> As part of that action, the Commission reallocated the one thousand megahertz of spectrum from 18.3-19.3 GHz solely to Fixed-Satellite Service (FSS). The terrestrial services, including FS, continue to have shared (co-primary) access to the terrestrial 18 GHz band and today we revise the FS channel plan, under Part 101, to ensure that the FS community can effectively and efficiently utilize this spectrum. Rechannelization of CARS and BAS, which share the terrestrial 18 GHz band with FS (as well as satellite services) will be addressed in a separate proceeding. Accordingly, the discussion below focuses on the terrestrial Fixed Microwave Services (FS) licensed under Part 101, except where we address NTIA’s request to protect certain Federal Government earth stations relative to all applications for new or modified MVPD operations whether under Parts 74, 78, or 101.

4. The 18 GHz band currently serves a variety of terrestrial communications needs and is an important band for the growth of FS services.<sup>5</sup> Prior to the rule changes adopted in the *18 GHz SAT R&O*, the 18 GHz band (two-thousand megahertz of spectrum at 17.7-19.7 GHz) was allocated on a co-primary basis for FS, CARS, BAS, and satellite services.<sup>6</sup> In the *18 GHz SAT R&O*, the Commission reallocated one-thousand megahertz of spectrum for FS use as follows: the 17.7-18.3 GHz band and the 19.3-19.7 GHz band, both on a co-primary basis with satellite services.<sup>7</sup>

5. *Ten-year relocation reimbursement sunset*. Recognizing the importance of existing FS systems in the 18 GHz band, the Commission adopted a ten-year transition plan that permits FS stations currently operating within the one-thousand megahertz of spectrum at 18.3-19.3 GHz, that was reallocated for exclusive satellite services use, to continue operating on a co-primary basis until the applicable sunset date.<sup>8</sup> Under these rules, satellite operators have the option to relocate FS stations in the event of interference<sup>9</sup> and, during this ten-year period, existing FS stations may be relocated in accordance with the reimbursement and involuntary relocation procedures set forth in Sections 101.85 and 101.91 of the Commission’s Rules.<sup>10</sup> After the sunset, existing FS stations may continue to operate on a non-interference basis, but FSS licensees are not required to pay relocation costs and may require an

<sup>4</sup> See *18 GHz SAT R&O*, 15 FCC Rcd at 13430 ¶ 1.

<sup>5</sup> *Id* at 13431 ¶ 2.

<sup>6</sup> See 47 C.F.R. § 2.106 (1999); see also 47 C.F.R. Parts 21, 25, 74, 78, and 101. See *18 GHz SAT R&O*, 15 FCC Rcd 13430.

<sup>7</sup> *18 GHz Sat R&O*, 15 FCC Rcd at 13432 ¶ 4. The *18 GHz SAT R&O* also designated the 18.3-18.58 GHz band as co-primary between FS and GSO/FSS, but the Commission subsequently reallocated this sub-band exclusively for satellite services use. See *Second Order on Reconsideration*, 17 FCC Rcd at 24257-58 ¶ 22.

<sup>8</sup> 47 C.F.R. § 101.85 (Transition of the 18.3-19.3 GHz band from the terrestrial fixed services to the fixed- satellite services (FSS)). Certain FS operations in the 18.58-19.3 GHz band remain co-primary until June 8, 2010, while certain FS operations and low-power systems in the 19.26-19.3 GHz band remain co-primary until October 31, 2011, and certain FS operations in the 18.3-18.58 GHz band remain co-primary until November 19, 2012. *Id*.

<sup>9</sup> *18 GHz SAT R&O*, 15 FCC Rcd at 13433 ¶ 5.

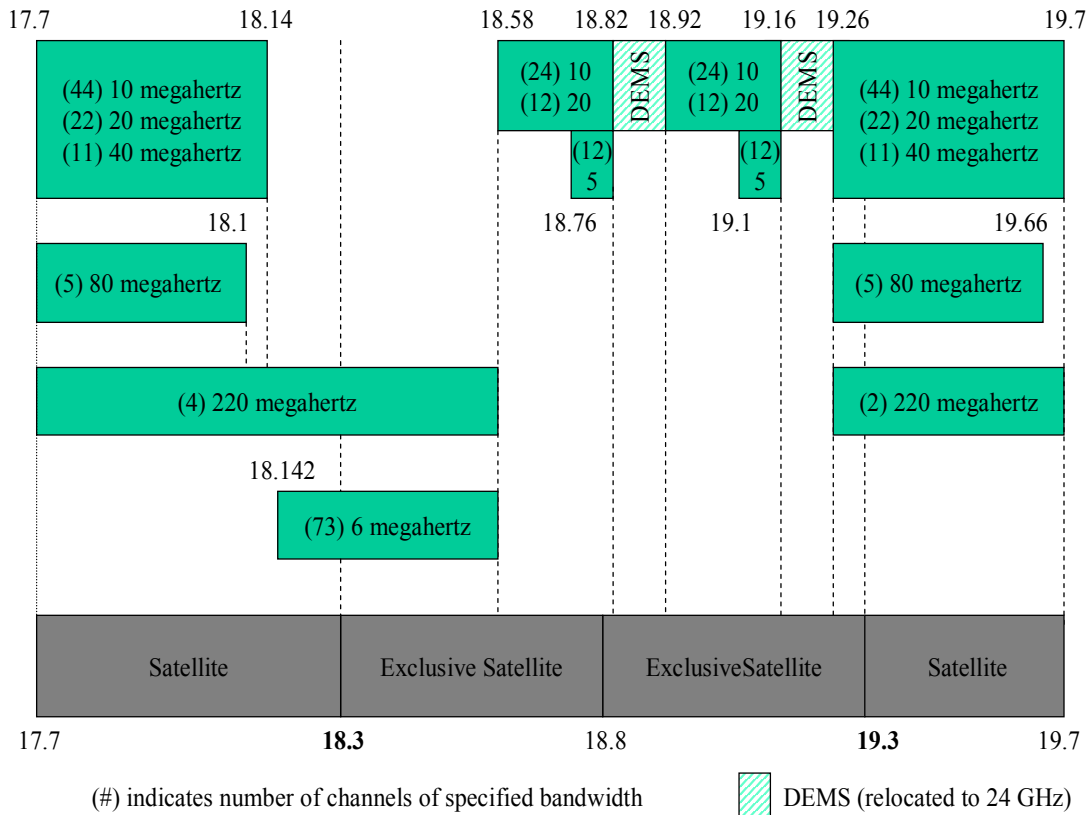
<sup>10</sup> 47 C.F.R. §§ 101.85 and 101.91.

incumbent FS licensee to cease operations, provided that the FSS licensee intends to turn on a system within interference range of the incumbent FS licensee.<sup>11</sup>

6. The following chart (Chart 1) shows at the top of the chart the bandwidth and allocation of 18 GHz FS channels prior to the *18 GHz SAT R&O*. The bottom of the chart shows the satellite services blocks and indicates the two blocks that were reallocated for exclusive satellite services use by the *18 GHz SAT R&O* in IB Docket No. 98-172.

Chart 1

## 18 GHz Channel Sizes



<sup>11</sup> 47 C.F.R. § 101.95 (Sunset provisions for licensees in the 18.30-19.30 GHz Band). See also *18 GHz SAT R&O*, 15 FCC Rcd at 1346 ¶ 63, *First Order on Reconsideration*, 16 FCC Rcd at 19821 ¶ 26.

7. Chart 1 illustrates that the 18 GHz band spectrum available for FS containing the narrowest (five megahertz) paired channels (18.76-19.16 GHz band frequencies) was reallocated exclusively to satellite services. Under current rules, ten megahertz is the smallest channel size available for licensing to FS in the terrestrial 18 GHz band. As a result, under the existing band plan some FS operators will not be able to relocate to replacement channels in the terrestrial 18 GHz band of the same bandwidth as their currently licensed channels at 18.76-19.16 GHz. Moreover, some FS operators would not be able to be licensed without a waiver of the minimum efficiency requirements specified in Part 101 of our rules.<sup>12</sup> Requiring such licensees to be licensed for larger-than-necessary bandwidths would be spectrally inefficient.

8. The Commission recognized in the *18 GHz SAT R&O* that the already high demand for 18.14-18.58 GHz band will increase.<sup>13</sup> However, Chart 1 also shows that most of the 18 GHz band spectrum from 18.142-18.58 GHz, which consists of six megahertz channels<sup>14</sup> used mainly by private cable operators (“PCOs”) and other MVPDs, was reallocated to satellite services. Accordingly, when the Commission reallocated this portion of the 18 GHz band, it noted that PCOs and other MVPDs were eligible to use other spectrum either below 18.3 GHz in the terrestrial 18 GHz band<sup>15</sup> or in the CARS (12.7-13.2 GHz) band.<sup>16</sup> Although the *Second Order on Reconsideration* recognized that the *CARS Eligibility Order* allowed non-cable MVPDs access to the terrestrial 18 GHz band, the Commission did not, in those proceedings, remove the restriction for video in Section 101.603 of the Commission’s rules,<sup>17</sup> nor amend the size of the channels in the terrestrial 18 GHz band below 18.142 GHz to accommodate such use.<sup>18</sup> Rather, the Commission explained in the *First Order on Reconsideration* that it would undertake a separate proceeding to rechannelize the terrestrial 18 GHz band to facilitate the

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<sup>12</sup> Under the efficiency rules in Section 101.141 of the Commission’s rules, a FS licensee must utilize its channel to the required limit. *See* 47 C.F.R. § 101.141. The *18 GHz Rechannelization Notice* set forth criteria for waiver of the channel-size rules pending the outcome of this proceeding.

<sup>13</sup> *18 GHz SAT R&O*, 15 FCC Rcd 13445-46 ¶ 33. The Commission stated that this portion of the 18 GHz band is vital to the success of FS relocation efforts and the continued viability of wireless cable providers that provide direct competition to traditional cable operators. *Id.*

<sup>14</sup> Six megahertz is the standard channel bandwidth used by almost all MVPDs to deliver analog channels and digital video streams.

<sup>15</sup> 18 GHz band spectrum is shared with CARS and BAS. MVPDs are eligible for CARS licenses.

<sup>16</sup> *Second Order on Reconsideration*, 17 FCC Rcd at 24250 ¶ 6. This “enhanced eligibility” was the result of the Commission’s decision in another proceeding. *See* Amendment of Eligibility Requirements in Part 78 Regarding 12 GHz Cable Television Relay Service, CS Docket No. 99-250, *Report and Order*, 17 FCC Rcd 9930, 9930 ¶ 1 (2002) (“*CARS Eligibility Order*”).

<sup>17</sup> *See* 47 C.F.R. § 101.603(b)(3) (prohibiting use of 18 GHz frequencies, other than 18.142-18.580 GHz, for the final link in the chain of transmission of program material).

<sup>18</sup> *See* 47 C.F.R. § 101.147(r).

relocation.<sup>19</sup> Accordingly, on April 19, 2004, the Commission released the *18 GHz Rechannalization Notice*.<sup>20</sup>

### III. DISCUSSION

#### A. Adding smaller channels for FS operations in the terrestrial 18 GHz band

9. In the *18 GHz Rechannalization Notice*<sup>21</sup> (based largely on a filing by the Fixed Wireless Communications Coalition (“FWCC”)),<sup>22</sup> the Commission proposed a revised FS channel plan for the terrestrial 18 GHz band that included paired and unpaired channels from 17.7-18.3 GHz and 19.3-19.7 GHz, as well as a variety of channel bandwidths including narrower bandwidths, *e.g.*, 1.25, 2.5 and 5 megahertz (as well as those of thirty and fifty megahertz) and a block of unpaired spectrum from 17.7-17.74 GHz.

10. All commenters generally support our efforts to provide relief to relocated point-to-point microwave FS licensees by modifying the existing FS channel plan in the terrestrial 18 GHz band.<sup>23</sup> Based on the information available in the record, we conclude that our decisions herein will promote more efficient use of the terrestrial 18 GHz band by allowing FS licensees to request the amount of spectrum that they need, rather than having to request larger bandwidth channels or seek a waiver of the Commission’s Rules.<sup>24</sup> This in turn promotes access to spectrum for FS operations, both by relocating incumbents and new entrants.<sup>25</sup>

11. The following chart (Chart 2) shows the spectral location, size, and number of channels that comprise the revised band plan under which “new” channels are superimposed on the same spectrum that comprises previously designated FS channels. Specifics considered in developing the revised band plan are discussed below.

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<sup>19</sup> *First Order on Reconsideration*, 16 FCC Rcd at 19821 ¶ 26.

<sup>20</sup> Rechannalization of the 17.7-19.7 GHz Frequency Band for Fixed Microwave Services under Part 101 of the Commission’s Rules, *Notice of Proposed Rulemaking*, WT Docket No. 04-13, 19 FCC Rcd 7260 (2004) (“*18 GHz Rechannalization Notice*”).

<sup>21</sup> *See, e.g., id.*, 19 FCC Rcd at 7264 ¶ 6.

<sup>22</sup> *See* Letter from Mitchell Lazarus, counsel for FWCC, to Magalie Salas, Secretary, FCC (May 4, 2001); *see also* Petition for Reconsideration from Leonard R. Raish and Andrew Kreig, Co-Chairs of the FWCC, filed on October 10, 2000, at 4-6 (asking Commission to address rechannalization of the 18 GHz band). *See also* Fixed Wireless Communications Coalition and National Spectrum Managers Association, Request for Waiver of Sections 101.31(b)(1)(iii) and 101.147(r) of the Commission’s Rules to Promote More Efficient Use of Spectrum, Request for Blanket Waiver (filed May 29, 2002) (“FWCC/NSMA Waiver Request”).

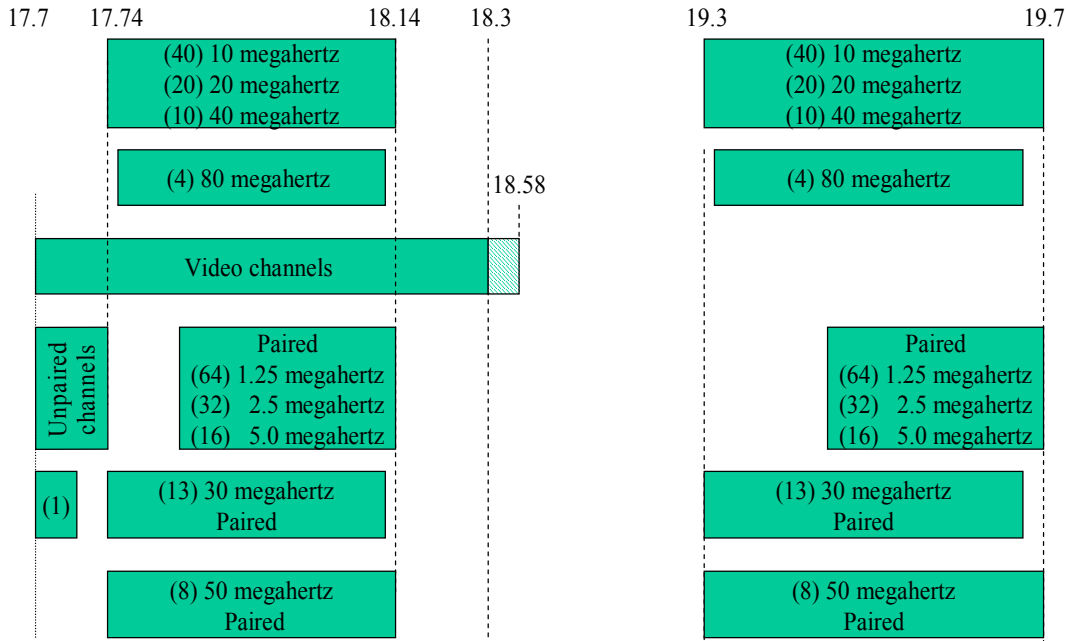
<sup>23</sup> Alcatel Comments at 1; Comsearch Comments at 1; FWCC/NSMA Comments at 1-3; IMCC Reply Comments at 4.

<sup>24</sup> *See supra* note 12.

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

Chart 2 (Revised Channel Plan for Fixed Terrestrial Microwave Services at 18 GHz)

## New 18 GHz Channel Sizes



Pictures are not to scale

(#) indicates number of channels of specified bandwidth

### B. 220 megahertz channels

12. In the *18 GHz Rechannelization Notice*, the Commission recognized that the reallocation of the 18 GHz band eliminated portions of all three FS 220 megahertz channel pairs, and the Commission sought comments on whether a need exists to maintain any 220 megahertz channel pair.<sup>26</sup> Commenters state that maintaining 220 megahertz channel pairs is no longer necessary because, due to advances in modulation, the services that were provided over these channel pairs are no longer used and, accordingly, the equipment needed to provide these services is no longer manufactured.<sup>27</sup> Moreover, commenters maintain that the proposed assignment would effectively block the use of narrower channels for two-way links within the terrestrial 18 GHz band.<sup>28</sup> We also note that the Commission’s licensing records reflect that no incumbents are licensed for a 220 megahertz channel pair. Based on the record before us, we agree with the commenters and find that maintaining a 220 megahertz channel pair serves no useful

<sup>26</sup> *18 GHz Rechannelization Notice*, 19 FCC Rcd at 7265 ¶ 8.

<sup>27</sup> Alcatel Comments at 2; FWCC/NSMA Comments at 4.

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

purpose, especially given our decision below regarding aggregation. Accordingly, we change our rules to eliminate this size channel designation.

### C. Aggregation

13. We also proposed, in the *18 GHz Rechannelization Notice*, to permit applicants to request any amount of available spectrum based on their specific needs, on the condition that aggregated channels are contiguous channels, except for channels that are already licensed to someone else in the area, and are thus blocked.<sup>29</sup> Comsearch asks us to clarify whether applicants also may skip any segments that would be affected by interference with other links.<sup>30</sup> We conclude that allowing aggregation conditioned upon the proposed requirement that aggregated channels be contiguous is necessary to prevent licensees from spacing their channels in a manner that effectively could prevent others from using the remaining spectrum in the same area. We also, however, agree with Comsearch that where an applicant seeks to operate in a particular segment that is unavailable in the relevant area, whether due to co-channel licenses or adjacent channel interference as determined under our rules (including requirements to comply with any applicable agreements with Canada or Mexico in these bands), then it is appropriate to allow the applicant to skip that “blocked” segment of spectrum.

### D. Use of the 17.7-17.74 GHz sub-band

14. The *18 GHz Rechannelization Notice* also proposed to permit unpaired use by any FS licensee of the 17.7-17.74 GHz sub-band, which was previously paired with the 19.26-19.3 GHz sub-band that was reallocated to FSS. We also asked whether to allow licensees to pair channels in the 17.7-17.74 GHz sub-band with other channels in the terrestrial 18 GHz band where, for example, the return pair is already in use and therefore blocked.<sup>31</sup> Only one commenter, IMCC, addressed these proposals and supported them.<sup>32</sup> We conclude that these approaches will provide FS licensees additional operational flexibility within the terrestrial 18 GHz band without compromising our efforts to facilitate effective and expeditious relocation of those licensees from other portions of the 18 GHz band. We accordingly adopt these changes to our rules.

### E. Multichannel video programming distributors (MVPDs)

#### 1. Background

15. Prior to the reallocation to satellite services in IB Docket No. 98-172, PCOs and other MVPDs had co-primary access to 438 megahertz of spectrum (18.142-18.58 GHz) and non-MVPDs had co-primary access to 442 megahertz of spectrum (17.7-18.142 GHz).<sup>33</sup> Although MVPD and non-MVPD each shared spectrum with satellite and other terrestrial services, these Part 101 licensees did not share with one another. In the *18 GHz Rechannelization Notice*, the Commission noted that MVPDs no longer will have primary access to the 18.3-18.58 GHz band frequencies, leaving MVPDs subject to involuntary

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<sup>29</sup> *18 GHz Rechannelization Notice*, 19 FCC Rcd at 7265 ¶ 9.

<sup>30</sup> Comsearch Comments at 3.

<sup>31</sup> *18 GHz Rechannelization Notice*, 19 FCC Rcd at 7265 ¶ 9.

<sup>32</sup> IMCC Reply Comment at 4.

<sup>33</sup> As noted, *see, e.g.* ¶ 3, *supra*, the instant *Report and Order* addresses Part 101 service rules so references in this section to “MVPD” and “non-MVPD” refer to FS operations under Part 101.



relocation and access to only 158 megahertz of spectrum in the 18 GHz range. In this connection, the Commission proposed for MVPDs a contiguous 500 megahertz block of one-way spectrum, from 17.8-18.3 GHz, consisting of the 158 megahertz of spectrum at 18.142-18.3 GHz and 342 megahertz of spectrum immediately below 18.142 GHz which MVPDs and non-MVPDs would share. The Commission also proposed removing the prohibition on video operations<sup>34</sup> and allowing MVPDs to be licensed for up to all five-hundred megahertz of this spectrum, subject to coordination, along with flexibility to channelize contiguous segments of licensed spectrum as needed.<sup>35</sup> The Commission further proposed emission flexibility for MVPDs within the 17.8 to 18.3 GHz band to accommodate and streamline conversions to digital transmissions. The *18 GHz Rechannalization Notice* did not propose to designate 17.7-17.8 GHz for MVPDs, which under the current rules would leave this one-hundred megahertz of spectrum designated for non-MVPDs. We discuss each proposal or issue below.

## 2. MVPD Designation at 17.8-18.3 GHz

16. Alcatel and FWCC/NSMA initially opposed designating the 17.8-18.3 GHz sub-band for use by MVPDs because MVPDs use one-way, hub-and-spoke architecture that these commenters contend will effectively block the use of the entire sub-band for more efficient two-way FS use in the vicinity of MVPDs systems.<sup>36</sup> FWCC/NSMA further contended that the combination of MVPDs' widespread geographic dispersion and high occupied bandwidth resulting from low-efficiency modulation effectively prevents FS use over the entire bandwidth.<sup>37</sup>

17. The main difference between non-MVPD use and MVPD use is that the latter often utilizes analog video channels, which are typically six megahertz, and have a larger amplitude (peak power) at the location of the main video carrier. As a result, the power is not spread as evenly across the bandwidth as is the case for most non-MVPD operations. Typically, MVPDs also use several contiguous channels to backhaul their services whereas non-MVPD operators usually meet their needs with one or two channels. After taking these differences into account, however, we reject any claim that these operational differences preclude sharing given that MVPDs are required to coordinate with other service providers, and thus will not be able to uniformly block or otherwise interfere with other, non-MVPD licensees. Moreover, given MVPDs' "late arrival" to this band, they will only operate where the spectrum is still available, *i.e.*, can be coordinated with existing licensees. We also note that in the *Second Order on Reconsideration*, the Commission determined that if PCOs relocate to the 12.7-13.2 GHz and 17.7-18.3 GHz frequency bands, the geographic separation between the incumbent systems and the relocated PCOs would result in only rare instances where the frequency paths would intersect in a way that would require site shielding or other mitigating measures necessary to prevent mutually unacceptable interference.<sup>38</sup> As such, the Commission determined in the *Second Order on Reconsideration* that MVPDs could relocate to either the CARS band (12.7-13.2 GHz) or to 17.7-18.3 GHz.<sup>39</sup> In view of these prior determinations in

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<sup>34</sup> See 47 C.F.R. §§ 101.603(a)(1), 101.603(b)(3) (prohibiting use of 18 GHz frequencies, other than 18.142-18.580 GHz, for the final link in the chain of transmission of program material). See also *18 GHz Rechannalization Notice*, 19 FCC Rcd at 7266 ¶ 11.

<sup>35</sup> *18 GHz Rechannalization Notice*, 19 FCC Rcd at 7266 ¶ 12.

<sup>36</sup> Alcatel Comments at 2; FWCC/NSMA Comments at 4-5.

<sup>37</sup> FWCC/NSMA Comments at 4-5.

<sup>38</sup> *Id.*

<sup>39</sup> *Second Order on Reconsideration*, 17 FCC Rcd at 24255-56 ¶¶ 17-19.

the allocation proceeding, we conclude that it is not within the scope of the instant service-rules proceeding to reconsider wholesale determinations regarding acceptable designations of terrestrial operations for these bands made in IB Docket No. 98-172.<sup>40</sup> In this connection, we note that Alcatel and FWCC/NSMA subsequently informed the Commission that they no longer oppose expanding 18 GHz spectrum for final video links.<sup>41</sup> As such, and in accordance with the determination made in IB Docket No. 98-172 that terrestrial users, *e.g.*, MVPDs and other FS users, could and would share portions of the terrestrial 18 GHz band, we are adopting the proposal in the *18 GHz Rechannalization Notice* to allow the 17.8-18.3 GHz sub-band to be used for the final radio frequency link to distribute video.

### 3. MVPD Designation at 17.7-17.8 GHz

18. *MVPD Designation at 17.7-17.8 GHz.* As noted, the *18 GHz Rechannalization Notice* did not propose to designate for MVPDs the one-hundred megahertz of spectrum at 17.7-17.8 GHz.<sup>42</sup> IMCC contends, however, that to have a reasonably cost effective transmission solution to compete with large telecommunications and cable companies, PCOs need access to the full 600 megahertz of spectrum contemplated for MVPDs in the *CARS Eligibility Order* and the *Second Order on Reconsideration*.<sup>43</sup> This appears to be a reasonable assertion as cable systems usually use 550 MHz or more of spectrum.<sup>44</sup> Moreover, in a particular location, even the full 600 megahertz may not be available contiguously due to the presence of other users.<sup>45</sup> Additionally, we acknowledge IMCC's point that the OET CARS Study

<sup>40</sup> A request to reconsider, or further reconsider, these decisions would have been the proper subject of a reconsideration petition in IB Docket No. 98-172. Likewise, to the extent these claims indirectly challenge earlier Commission decisions they are also procedurally flawed because they are an impermissible collateral attack, *see e.g.*, *MCI Telecommunications Corp. v. Pacific Northwest Bell Telephone Co.*, *Memorandum Opinion and Order*, 5 FCC Rcd 216, 228, n.38 (1990), *recon. denied*, 5 FCC Rcd 3463 (1990), appeal dismissed sub nom. *Mountain States Tel. and Tel. Co. v. FCC*, 951 F.2d 1259 (10th Cir. 1991) (per curiam), on final Commission decisions, *see* 47 U.S.C. §§ 402(c), 405(a); 47 C.F.R. § 1.429(d).

<sup>41</sup> *See* Letter from Mitchell Lazarus, counsel for Alcatel, FWCC and NSMA, to Marlene H. Dortch, Secretary, FCC (May 31, 2005).

<sup>42</sup> The 17.7-17.8 GHz band is allocated on a shared, co-primary basis to FS (Parts 74, 78 and 101) and FSS (Earth-to-space), with the FSS allocation limited to feeder links for broadcasting satellite service. *See* 47 C.F.R. § 2.106 (Table of Allocations) and US Footnote 271. Coordination is required between FS and FSS because there is a potential for interference from FSS uplinks into receiving FS facilities.

<sup>43</sup> IMCC Reply Comments at 5 citing *CARS Eligibility Order*, CS Docket No. 99-250, and *Second Order on Reconsideration*, IB Docket No. 98-172. *See also* IMCC Reply Comments at 6-8 (removing PCO access to the 100 megahertz of spectrum at 17.7-17.8 GHz will significantly harm the ability of PCOs to provide adequate competitive services).

<sup>44</sup> The cable industry has upgraded almost 91 percent of its plant to 750 MHz capacity or higher. *See Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, MB Docket No. 04-227, *Eleventh Annual Report*, 20 FCC Rcd 2755, 2773 ¶ 14 (2005). The average bandwidth of systems in the *2004 Price Survey* is approximately 734 MHz and the Commission calculated that the average system used 513 to 588 MHz of bandwidth to provide video service. *Id.*, 20 FCC Rcd at 2789 ¶ 24. For cable systems with 5,000 or fewer subscribers, 16 percent have cable plants with capacities of 750 MHz or greater and for cable systems with between 5,000 and 20,000 subscribers, 68 percent have capacities of 750 MHz or greater. *See Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, MB Docket No. 05-255, *Twelfth Annual Report*, FCC 06-11 (rel. March 3, 2006), at ¶ 68.

<sup>45</sup> "Access to the full 600 [megahertz at] 17.7-18.3 GHz is necessary . . . if PCOs are to have . . . any chance of managing the 'patchwork quilt' of unblocked and blocked frequencies . . . as PCO services grow . . . and PCOs are forced to abandon use of the 18.3-18.58 band." IMCC Reply Comments at 7.

(the Study)<sup>46</sup> that found sufficient capacity (in the 12 GHz and the terrestrial 18 GHz bands) to accommodate the relocation of terrestrial licensees adopted in IB Docket No. 98-172 included the 100 megahertz of spectrum at 17.7-17.8 GHz.<sup>47</sup>

19. As noted above, some commenters initially objected to use of spectrum below 18.142 MHz by video providers but these objections were subsequently withdrawn. IMCC has persuaded us that providing MVPDs access to the full 600 megahertz of spectrum, as contemplated in the OET CARS Band Study, is necessary and appropriate to promote competition in the video distribution industry.

#### **4. Protection of Federal Government Operations near Denver, Colorado, and Washington, D.C.**

20. On March 3, 2006, the National Telecommunications and Information Administration (NTIA) filed a letter with the Commission in the captioned proceeding stating concerns with the possibility of harmful interference to a limited number of Federal Government earth station facilities near Denver, Colorado and Washington, DC, from MVPD operations in the 17.7-17.8 GHz sub-band.<sup>48</sup>

21. NTIA requests that if the Commission chooses to permit MPVDs in the band, the Commission extend protection of these receiving Federal Government earth stations to the band 17.7-17.8 GHz in the geographic areas identified in Section 1.924(e) of the Commission's Rules for the 17.8-20.2 GHz band.<sup>49</sup> NTIA avers that this result would be implemented with minimum impact on MVPDs through the adoption of the following footnote to the Table of Allocations, 47 C.F.R. § 2.106, and the implementation of associated changes to existing rules in Parts 1, 74, and 78, and Section 101.31, the last by extending to MVPDs at 17.7-17.8 GHz the existing prohibition on the early commencement of operations at 17.8-19.7 GHz pending coordination with the Federal Government.

USXXX -In the band 17.7-17.8 GHz, Federal earth stations in the fixed-satellite service (space-to-Earth) may be authorized in the Denver, CO and Washington, DC areas on a primary basis. Before commencement of operations, non-Federal fixed service applications supporting Multichannel Video Programming Distributors (MVPD) shall be coordinated through the Frequency Assignment Subcommittee of the Interdepartmental Radio Advisory Committee.

22. NTIA acknowledges that many fixed services with differing characteristics already operate in the band 17.7-17.8 GHz without coordination with the Federal Government earth stations in the specified

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<sup>46</sup> IMCC Reply Comments at 5 and 7. *See also Third Order on Reconsideration*, 19 FCC Rcd at 10783-84 ¶¶ 16-17; *Second Order on Reconsideration*, 18 FCC Rcd at 24255 ¶ 17.

<sup>47</sup> *Id.* *Third Order on Reconsideration* at 10785 ¶ 19.

<sup>48</sup> *See* Letter from Fredrick R. Wentland, Associate Administrator, Office of Spectrum Management, NTIA, U.S. Department of Commerce, to Julius Knapp, Deputy Chief, Office of Engineering and Technology, FCC, dated March 3, 2006 (*NTIA Letter*). NTIA explains that while the rechannelization proposed in the *18 GHz Rechannelization Notice* would not adversely impact Federal operations, comments in this proceeding from the fixed services community request that the Commission allow MVPD operations in the 17.7-17.8 GHz band. *NTIA Letter* at 1.

<sup>49</sup> *NTIA Letter* at 1, n2.

locations. Accordingly, NTIA emphasizes that it does not seek to require coordination of fixed services already authorized in the band 17.7-17.8 GHz, for which coordination has not been previously required.<sup>50</sup>

23. Based on the record before us, we find that adopting the protections that NTIA has requested would serve the public interest. We find that NTIA's request is a reasonable mechanism to protect Federal Government earth stations that may be authorized in the Denver Colorado, and Washington, D.C. areas. Accordingly, we make changes to Parts 1, 2, 74, 78, and 101 of the Commission's Rules to implement NTIA's request with respect to applications for new (or major modifications to existing) MVPD operations. In this regard, we acknowledge that the *18 GHz Rechannalization Notice* stated that rechannalization of Broadcast Auxiliary Services (Part 74) and Cable Television Relay Service (Part 78) spectrum, which share the terrestrial 18 GHz band with FS (Part 101) would be addressed in a separate proceeding. The Commission also, however, gave notice that licensees in Parts 74 and 78 could be affected because of the shared use of these terrestrial services.<sup>51</sup> Given the important public policy objective of protecting federal facilities from interference, we are implementing NTIA's proposal for the 17.7-17.8 GHz band for all three rule parts (Parts 74, 78 and 101).

### 5. MVPD Flexibility at 17.7-18.3 GHz

24. In the *18 GHz Rechannalization Notice*, the Commission proposed rules permitting MVPD providers to use whatever size channels in contiguous spectrum that they deem necessary to accommodate analog or digital transmission techniques provided that they have properly coordinated the necessary emission designators and power criteria.<sup>52</sup> We adopt that proposal herein for the entire band 17.7-18.3 GHz for MVPD operators.

25. Comsearch disagrees with the Commission's flexibility approach and states that cable television distribution and MVPDs are closely tied to a 6 megahertz channel plan.<sup>53</sup> Comsearch contends that orderly spectrum management demands that a 6 megahertz channel plan should be added to this segment to accommodate MVPDs.<sup>54</sup> Comsearch further states that PCOs and MVPDs could use either this 6 megahertz plan or any of the other plans (5 megahertz, 10 megahertz, etc), but should not have total flexibility to use whatever channels and bandwidth they choose.<sup>55</sup>

26. We are not persuaded that adopting a six megahertz plan is necessary. In furtherance of our spectrum management goals for the terrestrial 18 GHz band, we adopt rules for permitting MVPD providers to use contiguous blocks of spectrum in order to accommodate their video delivery needs. The Commission recognizes that a *de-facto* six-megahertz channelization scheme exists because the current

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<sup>50</sup> *Id.* at 2-3.

<sup>51</sup> See *18 GHz Rechannalization Notice*, 19 FCC Rcd at 7265 ¶ 8. We also note that in the *Second Order on Reconsideration*, the Commission determined that MVPDs licensed under Part 101 could relocate to specified bands that are administered under Part 78 or Part 101. See note 39, *supra*.

<sup>52</sup> As required by 47 C.F.R. § 1.924(e), modification of an existing station license in this band which would change the frequency, power, emission, modulation, polarization, antenna height or directivity, or location of such a station, must be coordinated with the Federal Government by the Commission before an authorization will be issued. Compression techniques can be changed within certain emission designations without requiring an application.

<sup>53</sup> Comsearch Comments at 2-3.

<sup>54</sup> *Id.*

<sup>55</sup> *Id.*

availability of both analog and digital video processing equipment, in-home set-top boxes, and television sets is designed for six megahertz channels. However, we do believe that providing MVPDs with channel flexibility does not inhibit them from still operating within the existing, *de-facto* channelization scheme if they so choose. Adding operational flexibility to accommodate operators who wish to use alternate channel plans, should the opportunity or need arise, does not prevent the continued use of the six megahertz scheme and is therefore in the public interest.

## 6. 18.3-18.58 GHz

27. We find that it is in the public interest to adopt the proposal in the *18 GHz Rechannalization Notice*<sup>56</sup> to retain the 18.3-18.58 GHz sub-band for grandfathered MVPDs given its adjacency to the 17.7-18.3 GHz band that we are designating for MVPDs today.<sup>57</sup> We believe this approach is appropriate because it preserves the status of the grandfathered terrestrial licensees in the 18.3-18.58 GHz sub-band and their ability to continue operating. Together with the 17.7-18.3 GHz band, this provides MVPDs with access to a total of 880 megahertz (17.7-18.58 GHz), albeit with 280 megahertz limited to grandfathered licensees that operate on a co-primary basis with FSS until 2012, after which they will operate on a non-protected and non-interfering basis to FSS.<sup>58</sup>

28. In furtherance of our spectrum management goals of encouraging efficient use of spectrum for the 18 GHz band, we adopt rules allowing emission and channelization flexibility from 18.3 to 18.58 GHz for MVPDs. We find that extending emission and channelization flexibility will allow MVPDs to efficiently use spectrum in this sub-band without causing unacceptably high levels of interference with other licensees.<sup>59</sup> In the event that a FSS licensee intends to turn on a system within interference range of the incumbent licensee, the incumbent licensee would have to cease operations or relocate in accordance with our rules. Also, incumbent licensees are cautioned that all major modifications and certain extensions of existing systems will render those links secondary to FSS operations pursuant to Section 101.97(a) of the Commissions Rules.<sup>60</sup> We believe that providing emission and channelization flexibility in the 18.3 to 18.58 GHz segment, in conjunction with flexible usage rules for the 17.7-18.3 GHz band, will give MVPD licensees access to large blocks of spectrum to more effectively provide video services in an efficient manner for the duration of their grandfathered status.<sup>61</sup> We note that IMCC filed comments

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<sup>56</sup> *18 GHz Rechannalization Notice*, 19 FCC Rcd at 7266 ¶ 11.

<sup>57</sup> The Commission decided in IB Docket No. 98-172 that no applications for new Part 101 stations in the 18.3-18.58 GHz band would be accepted after November 19, 2002. *See, e.g., Second Order on Reconsideration*, 17 FCC Rcd at 24252 ¶ 11. Then-existing Part 101 applications and licenses were grandfathered. *See* 47 C.F.R. §§ 101.85, 101.147(r).

<sup>58</sup> *See* 47 C.F.R. §§ 101.85, 101.95, 101.147(r).

<sup>59</sup> *See* 47 C.F.R. §§ 101.83 (noting that certain “stations that remain co-primary [in the 18.3-19.3 GHz band] may not make modifications to their systems that increase interference to satellite earth stations, or result in a facility that would be more costly to relocate”).

<sup>60</sup> 47 C.F.R. § 101.97(a) (stating “All major modifications and extensions to existing FS systems in the 18.3-18.58 GHz band after November 19, 2003, . . . will be authorized on a secondary basis to FSS systems.”)

<sup>61</sup> As IMCC notes, modification to *existing* links from *existing* hubs for the purposes of emission and channelization flexibility would be allowed without having to apply for waivers. *Id.* at 5. However, as we stated in the *Third Order on Reconsideration*, MVPDs must still submit waiver applications for permission to add new links from existing hubs or add channels to existing links, provided that their waiver applications present circumstance that satisfy our waiver standards. *See Third Order on Reconsideration*, 19 FCC Rcd at 10787-88 ¶ 24.

supporting our proposal to extend flexible use to the 18.3-18.58 GHz sub-band.<sup>62</sup> We conclude, based on the evidence available in the record, and the amount of spectrum available to MVPDs licensees, that such changes are necessary to fully effectuate the Commission's efforts to provide MVPD licensees additional operational flexibility and increased access to the terrestrial 18 GHz band.

#### 7. Streamlined process for MVPD conversion to digital modulation

29. In furtherance of our goals to provide regulatory relief to licensees transitioning to the 18 GHz band and encourage efficient use of spectrum, we conclude that MVPD licensees should have flexibility to move from analog to digital emissions, choose the size of each channel, and use whatever compression techniques they wish. Our licensing records reflect that most of the MVPD operations subject to relocation are analog systems. As discussed above, we anticipate that many of these systems will convert to digital either at the end of their analog-equipment lifecycle or in response to market incentives. In this connection, we are concerned that MVPDs that must relocate prior to converting to digital could incur significant, duplicative costs associated with the coordination and licensing process for (1) spectral relocation and, later, (2) for digital conversion. To minimize the potential for duplicative costs, we conclude that MVPD licensees should have the option to specify analog and digital emission designators (each of which must be coordinated) on one application. In this connection, we are adopting a revision to Section 101.63 of the Commission's rules to allow MVPD licensees to meet their construction requirement and not automatically surrender their license as long as they are operating a system using either an authorized analog or digital emissions. Accordingly, such MVPD licensees will be authorized to operate using one or both modulations, *e.g.*, the licensee can operate its analog system and later convert to digital without having to file another, coordinated application. Once the licensee has completed the transition to digital, the license can remove the unused analog emission designator(s) the next time a modification or renewal application is filed.<sup>63</sup> In adopting these measures we reduce the regulatory burden on licensees and encourage flexible and more efficient use of spectrum.

#### IV. CONCLUSION

30. In this *Report and Order*, we adopt rules that rechannelize FS channels in the terrestrial 18 GHz band to new channel-size options for FS operations along with channelization and emission flexibility for MVPDs below 18.3 GHz. We believe these actions will encourage efficient use of the spectrum by all FS licensees and provide a regulatory environment that will allow MVPDs to provide competitive services while protecting Federal earth stations referenced in the *NTIA Letter*.

#### V. PROCEDURAL MATTERS

31. *Final Regulatory Flexibility Analysis*. The Final Regulatory Flexibility Analysis for this *Report and Order*, as required by the Regulatory Flexibility Act, 5 U.S.C. § 603, is contained in Appendix D.

32. *Paperwork Reduction Analysis*. This Report and Order does not contain either a proposed or modified information collection.

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<sup>62</sup> IMCC Reply Comments at 4. Specifically, IMCC maintains that changes to modulation type, bandwidth or compression would require changes to headend equipment and subscriber equipment, but microwave radio equipment would not need modification and thus would not increase the cost of relocation. *Id.*

<sup>63</sup> 47 C.F.R. § 101.63(f) (Period of construction; certification of completion of construction). "Construction of any authorized facility or frequency must be completed by the date specified in the license as pursuant to § 1.946.

33. *Further Information.* For further information concerning this *Report and Order*, contact Brian Michael Wondrack at (202) 418-0653, e-mail: [brian.wondrack@fcc.gov](mailto:brian.wondrack@fcc.gov), or via TTY (202) 418-7233, Wireless Telecommunications Bureau, Federal Communications Commission, Washington, D.C. 20554. Alternative formats (computer diskette, large print, audio cassette, and Braille) are available to persons with disabilities by contacting Brian Millin at (202) 418-7426, TTY (202) 418-7365, or via e-mail to [bmillin@fcc.gov](mailto:bmillin@fcc.gov). This *Report and Order* can be downloaded at: <http://wireless.fcc.gov/releases.html>.

## VI. ORDERING CLAUSES

34. ACCORDINGLY, IT IS ORDERED that, pursuant to Sections 1, 4(i), 302, and 303(f) and (r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 1, 154(i), 302, and 303(f) and (r), the regulatory changes described in this *Report and Order* are ADOPTED.

35. IT IS FURTHER ORDERED that Parts 1, 2, 74, 78, and 101 of the Commission's Rules ARE AMENDED as specified in Appendix C, effective 30 days after publication in the Federal Register.

36. IT IS FURTHER ORDERED that the Commission's Consumer and Government Affairs Bureau, Reference Information Center, SHALL SEND a copy of this *Report and Order*, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch  
Secretary

## APPENDIX A

## EXISTING PAIRED CHANNELS REMAINING AFTER RELOCATION (CENTER FREQUENCY)

80 Megahertz Channels		40 Megahertz Channels		20 Megahertz Channels		10 Megahertz Channels	
T/R	R/T	T/R	R/T	T/R	R/T	T/R	R/T
17820	19380	17760	19320	17750	19310	17745	19305
17900	19460	17800	19360	17770	19330	17755	19315
17980	19540	17840	19400	17790	19350	17765	19325
18060	19620	17880	19440	17810	19370	17775	19335
		17920	19480	17830	19390	17785	19345
		17960	19520	17850	19410	17795	19355
		18000	19560	17870	19430	17805	19365
		18040	19600	17890	19450	17815	19375
		18080	19640	17910	19470	17825	19385
		18120	19680	17930	19490	17835	19395
				17950	19510	17845	19405
				17970	19530	17855	19415
				17990	19550	17865	19425
				18010	19570	17875	19435
				18030	19590	17885	19445
				18050	19610	17895	19455
				18070	19630	17905	19465
				18090	19650	17915	19475
				18110	19670	17925	19485
				18130	19690	17935	19495
						17945	19505
						17955	19515
						17965	19525



80 Megahertz Channels		40 Megahertz Channels		20 Megahertz Channels		10 Megahertz Channels	
T/R	R/T	T/R	R/T	T/R	R/T	T/R	R/T
						17975	19535
						17985	19545
						17995	19555
						18005	19565
						18015	19575
						18025	19585
						18035	19595
						18045	19605
						18055	19615
						18065	19625
						18075	19635
						18085	19645
						18095	19655
						18105	19665
						18115	19675
						18125	19685
						18135	19695

17.7-17.74 GHz remains unpaired due to the reassignment of 19.26-19.3 GHz to satellite services.

## APPENDIX B

## ADDITIONAL CHANNELS FOR TERRESTRIAL (FS) 18 GHZ BAND PLAN (CENTER FREQUENCY)

50 Megahertz Channels		30 Megahertz Channels		5 Megahertz Channels		2.5 Megahertz Channels		1.25 Megahertz Channels	
T/R	R/T	T/R	R/T	T/R	R/T	T/R	R/T	T/R	R/T
17765	19325	17715	N/A	17702.5	N/A	17701.25	N/A	18060.625	19620.625
17815	19375	17755	19315	17707.5	N/A	17703.75	N/A	18061.875	19621.875
17865	19425	17785	19345	17712.5	N/A	17706.25	N/A	18063.125	19623.125
17915	19475	17815	19375	17717.5	N/A	17708.75	N/A	18064.375	19624.375
17965	19525	17845	19405	17722.5	N/A	17711.25	N/A	18065.625	19625.625
18015	19575	17875	19435	17727.5	N/A	17713.75	N/A	18066.875	19626.875
18065	19625	17905	19465	17732.5	N/A	17716.25	N/A	18068.125	19628.125
18115	19675	17935	19495	17737.5	N/A	17718.75	N/A	18069.375	19629.375
		17965	19525	18062.5	19622.5	17721.25	N/A	18070.625	19630.625
		17995	19555	18067.5	19627.5	17723.75	N/A	18071.875	19631.875
		18025	19585	18072.5	19632.5	17726.25	N/A	18073.125	19633.125
		18055	19615	18077.5	19637.5	17728.75	N/A	18074.375	19634.375
		18085	19645	18082.5	19642.5	17731.25	N/A	18075.625	19635.625
		18115	19675	18087.5	19647.5	17733.75	N/A	18076.875	19636.875
				18092.5	19652.5	17736.25	N/A	18078.125	19638.125
				18097.5	19657.5	17738.75	N/A	18079.375	19639.375
				18102.5	19662.5	18061.25	19621.25	18080.625	19640.625
				18107.5	19667.5	18063.75	19623.75	18081.875	19641.875
				18112.5	19672.5	18066.25	19626.25	18083.125	19643.125
				18117.5	19677.5	18068.75	19628.75	18084.375	19644.375
				18122.5	19682.5	18071.25	19631.25	18085.625	19645.625
				18127.5	19687.5	18073.75	19633.75	18086.875	19646.875
				18132.5	19692.5	18076.25	19636.25	18088.125	19648.125
				18137.5	19697.5	18078.75	19638.75	18089.375	19649.375
						18081.25	19641.25	18090.625	19650.625

50 Megahertz Channels		30 Megahertz Channels		5 Megahertz Channels		2.5 Megahertz Channels		1.25 Megahertz Channels	
T/R	R/T	T/R	R/T	T/R	R/T	T/R	R/T	T/R	R/T
						18083.75	19643.75	18091.875	19651.875
						18086.25	19646.25	18093.125	19653.125
						18088.75	19648.75	18094.375	19654.375
						18091.25	19651.25	18095.625	19655.625
						18093.75	19653.75	18096.875	19656.875
						18096.25	19656.25	18098.125	19658.125
						18098.75	19658.75	18099.375	19659.375
						18101.25	19661.25	18100.625	19660.625
						18103.75	19663.75	18101.875	19661.875
						18106.25	19666.25	18103.125	19663.125
						18108.75	19668.75	18104.375	19664.375
						18111.25	19671.25	18105.625	19665.625
						18113.75	19673.75	18106.875	19666.875
						18116.25	19676.25	18108.125	19668.125
						18118.75	19678.75	18109.375	19669.375
						18121.25	19681.25	18110.625	19670.625
						18123.75	19683.75	18111.875	19671.875
						18126.25	19686.25	18113.125	19673.125
						18128.75	19688.75	18114.375	19674.375
						18131.25	19691.25	18115.625	19675.625
						18133.75	19693.75	18116.875	19676.875
						18136.25	19696.25	18118.125	19678.125
						18138.75	19698.75	18119.375	19679.375
								18120.625	19680.625
								18121.875	19681.875
								18123.125	19683.125
								18124.375	19684.375
								18125.625	19685.625

50 Megahertz Channels		30 Megahertz Channels		5 Megahertz Channels		2.5 Megahertz Channels		1.25 Megahertz Channels	
T/R	R/T	T/R	R/T	T/R	R/T	T/R	R/T	T/R	R/T
								18126.875	19686.875
								18128.125	19688.125
								18129.375	19689.375
								18130.625	19690.625
								18131.875	19691.875
								18133.125	19693.125
								18134.375	19694.375
								18135.625	19695.625
								18136.875	19696.875
Note: Unpaired channels are available for one-way use or TDD systems								18138.125	19698.125
								18139.375	19699.375

## APPENDIX C

## FINAL RULES

For the reasons set forth herein, parts 1, 2, 74, 78, and 101 of title 47 of the Code of Federal Regulations are amended as follows:

**PART 1 – PRACTICE AND PROCEDURE**

1. The authority citation for Part 1 continues to read as follows:

AUTHORITY: 15 U.S.C. 79 et seq.; 47 U.S.C. 151, 154(i), 154(j), 155, 157, 225, and 303(r).

2. Section 1.924 is amended by adding a new paragraph (e)(4) to read as follows:

**§ 1.924 Quiet Zones.**

\* \* \* \* \*

(e) \* \* \*

(4) In the band 17.7-17.8 GHz, fixed service applications, under parts 74, 78, or 101 of this chapter, supporting Multichannel Video Programming Distributors shall be coordinated with the Federal Government by the Commission before an authorization will be issued if the station or proposed station is located in whole or in part within any of the areas defined in paragraphs (1) or (2).

\* \* \* \* \*

**PART 2—FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS**

3. The authority citation for Part 2 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

4. Section 2.106, the Table of Frequency Allocations, is amended as follows:

- a. Revise page 49.
- b. In the list of United States (US) footnotes, add footnote US401.

**§ 2.106 Table of Frequency Allocations.**

The revisions and additions read as follows:

\* \* \* \* \*

Table of Frequency Allocations

17.7-23.6 GHz (SHF)

International Table			United States Table		FCC Rule Part(s)
Region 1 Table	Region 2 Table	Region 3 Table	Federal Table	Non-Federal Table	
17.7-18.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE	17.7-17.8 FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.516 BROADCASTING-SATELLITE Mobile 5.518 5.515 5.517 17.8-18.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE	17.7-18.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE	17.7-17.8  US401 17.8-18.3 FIXED-SATELLITE (space-to-Earth) G117	17.7-17.8 FIXED FIXED-SATELLITE (Earth-to-space) US271  US401 NG144 17.8-18.3 FIXED	Satellite Communications (25) Auxiliary Broadcasting (74) Cable TV Relay (78) Fixed Microwave (101)  Auxiliary Broadcasting (74) Cable TV Relay (78) Fixed Microwave (101)
18.1-18.4 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B (Earth-to-space) 5.520 MOBILE 5.519 5.521 18.4-18.6 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B MOBILE			5.519 US334 18.3-18.6 FIXED-SATELLITE (space-to-Earth) G117  US334	5.519 US334 NG144 18.3-18.6 FIXED-SATELLITE (space-to-Earth) NG164  US334 NG144	Satellite Communications (25)
18.6-18.8 EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 5.522B MOBILE except aeronautical mobile Space research (passive) 5.522A 5.522C	18.6-18.8 EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 5.516B 5.522B MOBILE except aeronautical mobile SPACE RESEARCH (passive) 5.522A	18.6-18.8 EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 5.522B MOBILE except aeronautical mobile Space research (passive) 5.522A	18.6-18.8 EARTH EXPLORATION- SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) US255 G117 SPACE RESEARCH (passive)  US254 US334	18.6-18.8 EARTH EXPLORATION-SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) US255 NG164 SPACE RESEARCH (passive)  US254 US334 NG144	
18.8-19.3 FIXED FIXED-SATELLITE (space-to-Earth) 5.516B 5.523A MOBILE			18.8-20.2 FIXED-SATELLITE (space-to-Earth) G117	18.8-19.3 FIXED-SATELLITE (space-to-Earth) NG165 US334 NG144	
19.3-19.7 FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.523B 5.523C 5.523D 5.523E MOBILE				19.3-19.7 FIXED FIXED-SATELLITE (space-to-Earth) NG166 US334 NG144	Satellite Communications (25) Auxiliary Broadcast (74) Cable TV Relay (78) Fixed Microwave (101)
19.7-20.1 FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B Mobile-satellite (space-to-Earth) 5.524	19.7-20.1 FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B MOBILE-SATELLITE (space-to-Earth) 5.524 5.525 5.526 5.527 5.528 5.529	19.7-20.1 FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B Mobile-satellite (space-to-Earth) 5.524		19.7-20.1 FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth)  5.525 5.526 5.527 5.528 5.529 US334	Satellite Communications (25)
20.1-20.2 FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B MOBILE-SATELLITE (space-to-Earth) 5.524 5.525 5.526 5.527 5.528			US334	20.1-20.2 FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth)  5.525 5.526 5.527 5.528 US334	

\* \* \* \* \*

## UNITED STATES (US) FOOTNOTES

\* \* \* \* \*

US401 In the band 17.7-17.8 GHz, Federal earth stations in the fixed-satellite service (space-to-Earth) may be authorized in the Denver, CO and Washington, DC areas on a primary basis. Before commencement of operations, non-Federal fixed service applications supporting Multichannel Video Programming Distributors (MVPD) shall be coordinated through the Frequency Assignment Subcommittee of the Interdepartment Radio Advisory Committee.

\* \* \* \* \*

**PART 74—EXPERIMENTAL RADIO, AUXILIARY, SPECIAL BROADCAST AND OTHER PROGRAM DISTRIBUTIONAL SERVICES**

5. The authority citation for Part 74 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 303, 307, 336(f), 336(h) and 554.

6. Section 74.25 is revised by amending paragraph (c) as follows:

**§ 74.25 Temporary conditional operating authority.**

\* \* \* \* \*

(c) *Conditions applicable to aural and television broadcast auxiliary stations.* (1) The applicable frequency coordination procedures have been successfully completed and the filed application is consistent with that coordination.

(2) The station site does not lie within an area requiring international coordination.

(3) If operated on frequencies in the 17.8–19.7 GHz band for any services or on frequencies in the 17.7-17.8 GHz band for MVPD operations, the station site does not lie within any of the areas identified in §1.924 of this chapter.

\* \* \* \* \*

7. Section 74.32 is revised as follows:

**§ 74.32 Operation in the 17.7-17.8 GHz and 17.8–19.7 GHz bands.**

(a) To minimize or avoid harmful interference to Federal Government Satellite Earth Stations located in the Denver, Colorado and Washington, DC areas, any application for a new station license to provide MVPD operations in the 17.7-17.8 GHz band or to operate in the 17.8–19.7 GHz band for any service, or for modification of an existing station license in these bands which would change the frequency, power, emission, modulation, polarization, antenna height or directivity, or location of such a station, must be coordinated with the Federal Government by the Commission before an authorization will be issued, if the station or proposed station is located in whole or in part within any of the areas defined by the following rectangles or circles:

*Denver, CO Area*

## Rectangle 1:

41°30'00" N. Lat. on the north  
 103°10'00" W. Long. on the east  
 38°30'00" N. Lat. on the south  
 106°30'00" W. Long. on the west

## Rectangle 2:

38°30'00" N. Lat. on the north  
 105°00'00" W. Long. on the east  
 37°30'00" N. Lat. on the south  
 105°50'00" W. Long. on the west

## Rectangle 3:

40°08'00" N. Lat. on the north  
 107°00'00" W. Long. on the east  
 39°56'00" N. Lat. on the south  
 107°15'00" W. Long. on the west

*Washington, DC Area*

## Rectangle

38°40'00" N. Lat. on the north  
 78°50'00" W. Long. on the east  
 38°10'00" N. Lat. on the south  
 79°20'00" W. Long. on the west

or

(b) Within a radius of 178 km of 38°48'00" N. Lat./76°52'00" W. Long.

(c) In addition, no application seeking authority for MVPD operations in the 17.7-17.8 GHz band or to operate in the 17.8–19.7 GHz band for any service will be accepted for filing if the proposed station is located within 20 km of the following coordinates:

Denver, CO area: 39°43'00" N. Lat./104°46'00" W. Long.

Washington, DC area: 38°48'00" N. Lat. / 76°52'00" W. Long.

\* \* \* \* \*

**PART 78- CABLE TELEVISION RELAY SERVICE**

8. The authority citation for Part 78 continues to read as follows:

AUTHORITY: Secs. 2, 3, 4, 301, 303, 307, 308, 309, 48 Stat., as amended, 1064, 1065, 1066, 1081, 1082, 1083, 1084, 1085; 47 U.S.C. 152, 153, 154, 301, 303, 307, 308, 309.

9. Section 78.19 is revised by amending paragraph (f) as follows:

**§ 78.19 Interference.**

\* \* \* \* \*

(f) Protection to the Federal Government's receive earth station operations in the Denver, Colorado and Washington D.C. areas in the 17,700 to 19,700 MHz band.

(1) With the exception of applicants for a station authorization to operate within a 5 km radius of



39°40'23" N Lat. and 105°13'03" W Long (Morrison, CO), applicants will not be authorized to operate within a 50 km radius of 39°43'00" N Lat. and 104°46'00" W Long. (Denver, CO) and within a 50 km radius of 38°48'00" N Lat. and 76°52'00" W Long. (Washington, DC).

(2) To minimize or avoid harmful interference to Government Satellite Earth Stations located in the Denver, Colorado and Washington, DC areas, any application for a new station license for MVPD operations in the 17.7-17.8 GHz band or to operate in the 17.8-19.7 GHz band for any service, or for modification of an existing station license in these bands which would change the frequency, power, emission, modulation, polarization, antenna height or directivity, or location of such a station, must be coordinated with the Federal Government by the Commission before an authorization will be issued, if the station or proposed station is located in whole or in part within any of the areas defined by the following rectangles or circles:

(i) A circular area within a 5 km radius of 39°40'23" N Lat. and 105°13'03" W Long. (Morrison, CO)

(ii) Within the rectangular areas defined as follows (vicinity of Denver, CO):

Rectangle 1:

41°30'00" N. Lat. on the north

103°10'00" W. Long. on the east

38°30'00" N. Lat. on the south

106°30'00" W. Long. on the west

Rectangle 2:

38°30'00" N. Lat. on the north

105°00'00" W. Long. on the east

37°30'00" N. Lat. on the south

105°50'00" W. Long. on the west

Rectangle 3:

40°08'00" N. Lat. on the north

107°00'00" W. Long. on the east

39°56'00" N. Lat. on the south

107°15'00" W. Long. on the west

(iii) Within the rectangle and circle areas as follows (vicinity of Washington, DC):

Rectangle

38°40'00" N. Lat. on the north

78°50'00" W. Long. on the east

38°10'00" N. Lat. on the south

79°20'00" W. Long. on the west

or

(iv) Within a radius of 178 km of 38°48'00" N. Lat. / 76°52'00" W. Long.

Note to §78.19: The coordinates cited in this section are specified in terms of the "North American Datum of 1983 (NAD 83)" with an accuracy of -30 meters with respect to the "National Spatial Reference System."

\* \* \* \* \*

## PART 101—FIXED MICROWAVE SERVICES

10. The authority citation for Part 101 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 303.

11. Section 101.31 is amended by changing paragraphs (a)(3) and (b)(1)(v) as follows:

**§ 101.31 Temporary and conditional authorizations.**

(a) *Operation at temporary locations.*

\* \* \*

(3) Operations in the 17.8–19.7 GHz band for any services and in the 17.7-17.8 GHz band for MVPD operations are prohibited in the areas defined in §1.924 of this chapter. Operations proposed in the areas defined in §1.924 of this chapter may not commence without prior specific notification to, and authorization from, the Commission.

(b) *Conditional authorization.*

(1) \* \* \*

(v) The station site does not lie within 56.3 kilometers of any international border, within areas identified in §§1.924(a) through (d) of this chapter unless the affected entity consents in writing to conditional operation or, if for any services on frequencies in the 17.8–19.7 GHz band and for MVPD operations in the 17.7-17.8 GHz band, within any of the areas identified in §1.924 of this chapter;

\* \* \* \* \*

12. Section 101.63 is amended by adding paragraph (g) as follows:

**§ 101.63 Period of construction; certification of completion of construction.**

\* \* \* \* \*

(g) MVPD licensees which have both analog and digital emissions designators specified on the license and which already have, or may transition from analog to digital operations, or a combination of both, meet their completion of construction requirements and do not automatically surrender their license provided they are using either set of emissions. If the licensee has completed the transition to digital, the license can remove the unused analog emission designators the next time a modification or renewal application is filed.

\* \* \* \* \*

13. The introductory paragraph of Section 101.147(r) is amended to read as follows:

**§ 101.147 Frequency assignments.**

\* \* \* \* \*

(r) *17,700 to 19,700 and 24,250 to 25,250 MHz:* Operation of stations using frequencies in these bands is permitted to the extent specified in this paragraph. Until November 19, 2012, stations operating in the band 18.3–18.58 GHz that were licensed or had applications pending before the Commission as of November 19, 2002 shall operate on a shared co-primary basis with other services under parts 21, 25, 74, and 78 of this chapter. Until October 31, 2011, operations in the band 19.26–19.3 GHz and low power systems operating pursuant to § 101.147(r)(10) shall operate on a co-primary basis. Until June 8, 2010, stations operating in the band 18.58–18.8 GHz that were licensed or had applications pending before the

Commission as of June 8, 2000 may continue those operations on a shared co-primary basis with other services under parts 21, 25, 74, and 78 of this chapter. Until June 8, 2010, stations operating in the band 18.8–19.3 GHz that were licensed or had applications pending before the Commission as of September 18, 1998 may continue those operations on a shared co-primary basis with other services under parts 21, 25, 74, and 78 of this chapter. After November 19, 2012, stations operating in the band 18.3–18.58 GHz are not entitled to protection from fixed-satellite service operations and must not cause unacceptable interference to fixed-satellite service station operations. After June 8, 2010, operations in the 18.58–19.30 GHz band are not entitled to protection from fixed-satellite service operations and must not cause unacceptable interference to fixed-satellite service station operations. After November 19, 2002, no applications for new stations for part 101 licenses will be accepted in the 18.3–18.58 GHz band. After June 8, 2000, no applications for new stations for part 101 licenses will be accepted in the 18.58–19.3 GHz band. Licensees, except 24 GHz band licensees, may use either a two-way link or one frequency of a frequency pair for a one-way link and must coordinate proposed operations pursuant to the procedures required in § 101.103 of this subpart. (Note, however, that stations authorized as of September 9, 1983, to use frequencies in the band 17.7–19.7 GHz may, upon proper application, continue to be authorized for such operations, consistent with the above conditions related to the 18.58–19.3 GHz band.) Applicants for one-way spectrum from 17.7-18.58 GHz for multichannel video programming distribution are governed by § 101.147(r)(6). Licensees are also allowed to use one-way (unpaired) channels in the 17.7-17.74 GHz sub-band to pair with other channels in the FS portions of the 18 GHz band where, for example, the return pair is already in use and therefore blocked or in TDD systems. Stations used for MVPD operations in the 17.7-17.8 GHz band must coordinate with the Federal Government before operating in the zones specified in Section 1.924(e).

- (1) 1.25 Megahertz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
17700.625.....	NA
17701.875.....	NA
17703.125.....	NA
17704.375.....	NA
17705.625.....	NA
17706.875.....	NA
17708.125.....	NA
17709.375.....	NA
17710.625.....	NA
17711.875.....	NA
17713.125.....	NA
17714.375.....	NA
17715.625.....	NA
17716.875.....	NA
17718.125.....	NA
17719.375.....	NA
17721.625.....	NA
17722.875.....	NA
17723.125.....	NA
17724.375.....	NA
17725.625.....	NA
17726.875.....	NA

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17728.125.....	NA
17729.375.....	NA
17730.625.....	NA
17731.875.....	NA
17733.125.....	NA
17734.375.....	NA
17735.625.....	NA
17736.875.....	NA
17738.125.....	NA
17739.375.....	NA
18060.625.....	19620.625
18061.875.....	19621.875
18063.125.....	19623.125
18064.375.....	19624.375
18065.625.....	19625.625
18066.875.....	19626.875
18068.125.....	19628.125
18069.375.....	19629.375
18070.625.....	19630.625
18071.875.....	19631.875
18073.125.....	19633.125
18074.375.....	19634.375
18075.625.....	19635.625
18076.875.....	19636.875
18078.125.....	19638.125
18079.375.....	19639.375
18080.625.....	19640.625
18081.875.....	19641.875
18083.125.....	19643.125
18084.375.....	19644.375
18085.625.....	19645.625
18086.875.....	19646.875
18088.125.....	19648.125
18089.375.....	19649.375
18090.625.....	19650.625
18091.875.....	19651.875
18093.125.....	19653.125
18094.375.....	19654.375
18095.625.....	19655.625
18096.875.....	19656.875
18098.125.....	19658.125
18099.375.....	19659.375
18100.625.....	19660.625
18101.875.....	19661.875
18103.125.....	19663.125
18104.375.....	19664.375
18105.625.....	19665.625
18106.875.....	19666.875
18108.125.....	19668.125
18109.375.....	19669.375
18110.625.....	19670.625

18111.875.....	19671.875
18113.125.....	19673.125
18114.375.....	19674.375
18115.625.....	19675.625
18116.875.....	19676.875
18118.125.....	19678.125
18119.375.....	19679.375
18120.625.....	19680.625
18121.875.....	19681.875
18123.125.....	19683.125
18124.375.....	19684.375
18125.625.....	19685.625
18126.875.....	19686.875
18128.125.....	19688.125
18129.375.....	19689.375
18130.625.....	19690.625
18131.875.....	19691.875
18133.125.....	19693.125
18134.375.....	19694.375
18135.625.....	19695.625
18136.875.....	19696.875
18138.125.....	19698.125
18139.375.....	19699.375

(2) 2 Megahertz maximum authorized bandwidth channel:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
-----	-----
18141.0.....	N/A
-----	-----

(3) 2.5 Megahertz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
-----	-----
17701.25.....	N/A
17703.75.....	N/A
17706.25.....	N/A
17708.75.....	N/A
17711.25.....	N/A
17713.75.....	N/A
17716.25.....	N/A
17718.75.....	N/A
17721.25.....	N/A
17723.75.....	N/A
17726.25.....	N/A

17728.75.....	N/A
17731.25.....	N/A
17733.75.....	N/A
17736.25.....	N/A
17738.75.....	N/A
18061.25.....	19621.25
18063.75.....	19623.75
18066.25.....	19626.25
18068.75.....	19628.75
18071.25.....	19631.25
18073.75.....	19633.75
18076.25.....	19636.25
18078.75.....	19638.75
18081.25.....	19641.25
18083.75.....	19643.75
18086.25.....	19646.25
18088.75.....	19648.75
18091.25.....	19651.25
18093.75.....	19653.75
18096.25.....	19656.25
18098.75.....	19658.75
18101.25.....	19661.25
18103.75.....	19663.75
18106.25.....	19666.25
18108.75.....	19668.75
18111.25.....	19671.25
18113.75.....	19673.75
18116.25.....	19676.25
18118.75.....	19678.75
18121.25.....	19681.25
18123.75.....	19683.75
18126.25.....	19686.25
18128.75.....	19688.75
18131.25.....	19691.25
18133.75.....	19693.75
18136.25.....	19696.25
18138.75.....	19698.75

(4) 5 Megahertz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
-----	
340 Megahertz Separation	
(* channels no longer available on a primary basis)	
-----	
18762.5*.....	19102.5*
18767.5*.....	19107.5*
18772.5*.....	19112.5*

18777.5*.....	19117.5*
18782.5*.....	19122.5*
18787.5*.....	19127.5*
18792.5*.....	19132.5*
18797.5*.....	19137.5*
18802.5*.....	19142.5*
18807.5*.....	19147.5*
18812.5*.....	19152.5*
18817.5*.....	19157.5*

(5) 5 Megahertz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
-----	
1560 Megahertz Separation	
-----	
17702.5.....	N/A
17707.5.....	N/A
17712.5.....	N/A
17717.5.....	N/A
17722.5.....	N/A
17727.5.....	N/A
17732.5.....	N/A
17737.5.....	N/A
18062.5.....	19622.5
18067.5.....	19627.5
18072.5.....	19632.5
18077.5.....	19637.5
18082.5.....	19642.5
18087.5.....	19647.5
18092.5.....	19652.5
18097.5.....	19657.5
18102.5.....	19662.5
18107.5.....	19667.5
18112.5.....	19672.5
18117.5.....	19677.5
18122.5.....	19682.5
18127.5.....	19687.5
18132.5.....	19692.5
18137.5.....	19697.5

(6) MVPD use: Multichannel video programming distributors (MVPDs) can use any size channels for one-way operations in the 17.7-18.58 GHz band for any permissible communications specified for this band in § 101.603 provided that they have coordinated the appropriate emission designators and power, but must request contiguous spectrum (minus spectrum that is already licensed or prior coordinated in the area and thus blocked). MVPD systems must meet the efficiency requirements of § 101.141 of this part. Spectrum at 18.3-18.58 GHz is only available for grandfathered stations. See § 101.85 of this part.

(7) 10 Megahertz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
1560 Megahertz Separation <b>(* channels are no longer available on primary basis)</b>	
17705.0.....	19265.0*
17715.0.....	19275.0*
17725.0.....	19285.0*
17735.0.....	19295.0*
17745.0.....	19305.0
17755.0.....	19315.0
17765.0.....	19325.0
17775.0.....	19335.0
17785.0.....	19345.0
17795.0.....	19355.0
17805.0.....	19365.0
17815.0.....	19375.0
17825.0.....	19385.0
17835.0.....	19395.0
17845.0.....	19405.0
17855.0.....	19415.0
17865.0.....	19425.0
17875.0.....	19435.0
17885.0.....	19445.0
17895.0.....	19455.0
17905.0.....	19465.0
17915.0.....	19475.0
17925.0.....	19485.0
17935.0.....	19495.0
17945.0.....	19505.0
17955.0.....	19515.0
17965.0.....	19525.0
17975.0.....	19535.0
17985.0.....	19545.0
17995.0.....	19555.0
18005.0.....	19565.0
18015.0.....	19575.0
18025.0.....	19585.0
18035.0.....	19595.0
18045.0.....	19605.0
18055.0.....	19615.0
18065.0.....	19625.0
18075.0.....	19635.0
18085.0.....	19645.0
18095.0.....	19655.0
18105.0.....	19665.0



18115.0.....	19675.0
18125.0.....	19685.0
18135.0.....	19695.0

-----  
 340 Megahertz Separation  
 -----

18585.0*.....	18925.0*
18595.0*.....	18935.0*
18605.0*.....	18945.0*
18615.0*.....	18955.0*
18625.0*.....	18965.0*
18635.0*.....	18975.0*
18645.0*.....	18985.0*
18655.0*.....	18995.0*
18665.0*.....	19005.0*
18675.0*.....	19015.0*
18685.0*.....	19025.0*
18695.0*.....	19035.0*
18705.0*.....	19045.0*
18715.0*.....	19055.0*
18725.0*.....	19065.0*
18735.0*.....	19075.0*
18745.0*.....	19085.0*
18755.0*.....	19095.0*
18765.0*.....	19105.0*
18775.0*.....	19115.0*
18785.0*.....	19125.0*
18795.0*.....	19135.0*
18805.0*.....	19145.0*
18815.0*.....	19155.0*

-----  
 (8) 20 Megahertz maximum authorized bandwidth channels:  
 -----

Transmit (receive) (MHz)	Receive (transmit) (MHz)
--------------------------	--------------------------------

-----  
 1560 Megahertz Separation  
 -----

(\* channels are no longer available on primary basis)

17710.0.....	19270.0*
17730.0.....	19290.0*
17750.0.....	19310.0
17770.0.....	19330.0
17790.0.....	19350.0
17810.0.....	19370.0
17830.0.....	19390.0
17850.0.....	19410.0
17870.0.....	19430.0

17890.0.....	19450.0
17910.0.....	19470.0
17930.0.....	19490.0
17950.0.....	19510.0
17970.0.....	19530.0
17990.0.....	19550.0
18010.0.....	19570.0
18030.0.....	19590.0
18050.0.....	19610.0
18070.0.....	19630.0
18090.0.....	19650.0
18110.0.....	19670.0
18130.0.....	19690.0

-----  
 340 Megahertz Separation  
 -----

18590.0*.....	18930.0*
18610.0*.....	18950.0*
18630.0*.....	18970.0*
18650.0*.....	18990.0*
18670.0*.....	19010.0*
18690.0*.....	19030.0*
18710.0*.....	19050.0*
18730.0*.....	19070.0*
18750.0*.....	19090.0*
18770.0*.....	19110.0*
18790.0*.....	19130.0*
18810.0*.....	19150.0*

(9) 30 Megahertz maximum authorized bandwidth channels:

-----	Receive
Transmit (receive) (MHz)	(transmit)
	(MHz)
-----	

-----  
 1560 Megahertz Separation  
 -----

17715.0.....	N/A
17755.0.....	19315.0
17785.0.....	19345.0
17815.0.....	19375.0
17845.0.....	19405.0
17875.0.....	19435.0
17905.0.....	19465.0
17935.0.....	19495.0
17965.0.....	19525.0
17995.0.....	19555.0
18025.0.....	19585.0
18055.0.....	19615.0

18085.0..... 19645.0  
 18115.0..... 19675.0

(10) 40 Megahertz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
--------------------------	--------------------------

1560 Megahertz Separation

(\* channels are no longer available on primary basis)

17720.0.....	19280.0*
17760.0.....	19320.0
17800.0.....	19360.0
17840.0.....	19400.0
17880.0.....	19440.0
17920.0.....	19480.0
17960.0.....	19520.0
18000.0.....	19560.0
18040.0.....	19600.0
18080.0.....	19640.0
18120.0.....	19680.0

(11) 50 Megahertz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
--------------------------	--------------------------

1560 Megahertz Separation

17765.0.....	19325.0
17815.0.....	19375.0
17865.0.....	19425.0
17915.0.....	19475.0
17965.0.....	19525.0
18015.0.....	19575.0
18065.0.....	19625.0
18115.0.....	19675.0

(12) 80 Megahertz maximum authorized bandwidth channels:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
1560 Megahertz Separation	
<b>(* channels are no longer available on primary basis)</b>	
17740.0.....	19300.0*
17820.0.....	19380.0
17900.0.....	19460.0
17980.0.....	19540.0
18060.0.....	19620.0

(13) The following frequencies on channels 35-39 are available for point-to-multipoint systems and are available by geographic area licensing in the 24 GHz Service to be used as the licensee desires. The 24 GHz spectrum can be aggregated or disaggregated and does not have to be used in the transmit/receive manner shown except to comply with international agreements along the US borders. Channels 35 through 39 are licensed in the 24 GHz Service by Economic Areas for any digital fixed service. Channels may be used at either nodal or subscriber station locations for transmit or receive but must be coordinated with adjacent channel and adjacent area users in accordance with the provisions of Section 101.509 of this subpart. Stations also must comply with international coordination agreements.

Channel No.	Nodal station frequency band (MHz) limits	User station frequency band (MHz) limits
<b>(* channels are no longer available on primary basis)</b>		
25.....	18,820-18,830	19,160-19,170*
26.....	18,830-18,840	19,170-19,180*
27.....	18,840-18,850	19,180-19,190*
28.....	18,850-18,860	19,190-19,200*
29.....	18,860-18,870	19,200-19,210*
30.....	18,870-18,880	19,210-19,220*
31.....	18,880-18,890	19,220-19,230*
32.....	18,890-18,900	19,230-19,240*
33.....	18,900-18,910	19,240-19,250*
34.....	18,910-18,920	19,250-19,260*
35.....	24,250-24,290	25,050-25,090
36.....	24,290-24,330	25,090-25,130
37.....	24,330-24,370	25,130-25,170
38.....	24,370-24,410	25,170-25,210
39.....	24,410-24,450	25,210-25,250

(14) *Special provision for low power systems in the 17,700-19,700 MHz band:* Notwithstanding other provisions in Part 101 and except for specified areas around Washington, D.C., and Denver, Colorado, licensees of point-to-multipoint channel pairs 25-29 identified in paragraph (r)(13) of this section may continue to operate in accordance with the requirements of section 101.85 and may operate multiple low power transmitting devices within a defined service area. Operations are prohibited within 55 km when used outdoor and within 20 km when used indoor of the coordinates 38 deg.48' N/76 deg.52' W (Washington, D.C. area) and 39 deg.43' N/104 deg.46' W (Denver, Colorado area). The service area will be a 28 kilometer omni directional radius originating from specified center reference coordinates. The specified center coordinates must be no closer than 56 kilometers from any co-channel nodal station or the specified center coordinates of another co-channel system. Applicants/licensees do not need to specify the location of each individual transmitting device operating within their defined service areas. Such operations are subject to the following requirements on the low power transmitting devices:

- (i) Power must not exceed one watt EIRP and 100 milliwatts transmitter output power;
- (ii) A frequency tolerance of 0.001% must be maintained; and
- (iii) The mean power of emissions shall be attenuated in accordance with the following schedule:
  - (A) In any 4 kHz band, the center frequency of which is removed from the center frequency of the assigned channel by more than 50 percent of the channel bandwidth and is within the bands 18,820-18870 MHz or 19,19160-19,210 MHz:

$$A = 35 + .003(F - 0.5B) \text{ dB}$$

or,

80 dB (whichever is the lesser attenuation).

Where

A = Attenuation (in decibels) below output power level contained within the channel for a given polarization.

B = Bandwidth of channel in kHz.

F = Absolute value of the difference between the center frequency of the 4 kHz band measured at the center frequency of the channel in kHz.

(B) In any 4 kHz band the center frequency of which is outside the bands 18.820-18.870 GHz: At least  $43 + 10 \log P$  (mean output power in watts) decibels.

(iv) Low power stations authorized in the band 18.8-19.3 GHz after June 8, 2000, are restricted to indoor use only. No new licenses will be authorized for applications received after April 1, 2002.

\* \* \* \* \*

14. Section 101.603 is amended by revising paragraphs (a)(2) and (b)(3) to read as follows:

**§ 101.603 Permissible communications.**

(a) \* \* \* \* \*

(2) In the frequency bands 6425-6525 MHz, 17,700-18,580 MHz, and on frequencies above 21,200 MHz, licensees may deliver any of their own products and services to any receiving location;

\* \* \* \* \*

(b) \* \* \* \* \*

(3) Be used to provide the final RF link in the chain of transmission of program material to multichannel video programming distributors, except in the frequency bands 6425-6525 MHz and 17,700-18,580 MHz and on frequencies above 21,200 MHz.

\* \* \* \* \*

## APPENDIX D

## Final Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act of 1980, as amended (RFA),<sup>1</sup> an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *18 GHz Rechannalization Notice* in WT Docket 00-143.<sup>2</sup> The Commission sought written public comment on the proposals in the *18 GHz Rechannalization Notice*, including comment on the IRFA. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.<sup>3</sup>

**A. Need for, and Objectives of, the Report and Order**

In this *Report and Order*, we revise our rules to reduce regulatory burdens for 18 GHz band<sup>4</sup> terrestrial Fixed Microwave Services (FS) licensees that are subject to involuntary relocation from the 18.3-19.3 GHz band pursuant to the Commission's reallocation of that band for exclusive satellite services use in IB Docket No. 98-172.<sup>5</sup> These FS licensees will relocate to spectrum at 17.7-18.3 GHz and 19.3-19.7 GHz, where Part 101 currently designates channel sizes that are too large relative to the needs of some relocating point-to-point microwave licensees and too small relative to the needs of relocating private cable operators (PCOs) and other multichannel video programming distributors (MVPDs). The instant *Report and Order* revises the rules to add new channel sizes in both bands along with special rules for MVPDs within the 17.7-18.3 GHz band, thereby facilitating the relocation.

Specifically, we adopt a revised band plan for the FS paired and unpaired spectrum at 17.7-18.3 GHz and 19.3-19.7 GHz, consisting of a variety of channel bandwidths, primarily by adding narrower bandwidths and a block of unpaired spectrum from 17.7-17.74 GHz. In addition, we designate a contiguous 600 megahertz block of one-way spectrum from 17.7-18.3 GHz for use by MVPDs, who will

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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> Rechannalization of the 17.7-19.7 GHz Frequency Band for Fixed Microwave Services under Part 101 of the Commission's Rules, *Notice of Proposed Rulemaking*, WT Docket No. 04-13, 19 FCC Rcd 7260 (2004) ("*18 GHz Rechannalization Notice*").

<sup>3</sup> 5 U.S.C. § 604.

<sup>4</sup> The term "18 GHz band" refers to those frequencies between 17.7 and 19.7 GHz. Herein, we use the term "terrestrial 18 GHz band" to refer to those frequencies between 17.7-18.3 GHz and between 19.3-19.7 GHz that are allocated on a co-primary basis for the following terrestrial services: Fixed Microwave Services (FS) under Part 101, Cable Television Relay Service ("CARS") under Part 78, and Broadcast Auxiliary Services ("BAS") under Part 74. We recognize that 17.7-18.3 GHz and 19.3-19.7 GHz are also allocated on a co-primary basis for satellite services; we are using the term "terrestrial 18 GHz band" herein for convenience only given that the instant re-channelization concerns terrestrial services under Part 101.

<sup>5</sup> See Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use, IB Docket No. 98-172, *Report and Order*, 15 FCC Rcd 13430 (2000) ("*18 GHz SAT R&O*"), recon. granted in part, *First Order on Reconsideration*, 16 FCC Rcd 19808 (2001), further recon. granted in part, *Second Order on Reconsideration*, 17 FCC Rcd 24248 (2002) ("*Second Order on Reconsideration*"), further recon. denied, *Third Order on Reconsideration*, 19 FCC Rcd 10777 (2003) ("*Third Order on Reconsideration*").

have flexibility within this block to determine the appropriate bandwidths and other technical parameters of their MVPD operations. We also provide channel flexibility to grandfathered MVPDs in the 18.3-18.58 GHz band, which was previously designated for non-primary use by MVPDs. In the 17.7-17.8 GHz band, we protect Federal earth stations in the fixed-satellite service (space-to-Earth) that may be authorized in Denver, Colorado, and Washington, D.C., and require all MVPD applications (under Parts 74, 78, or 101) within the 17.7-17.8 GHz band near those areas to be coordinated with the Federal Government by the Commission before an authorization will be issued.

**B. Summary of Significant Issues Raised by Public Comments in Response to the Supplemental IRFA**

There were no comments filed that specifically addressed the rules and policies proposed in the IRFA

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

The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of entities that will be affected by the rules.<sup>6</sup> The RFA defines “small entity” as having the same meaning as the term “small business,” “small organization,” and “small governmental jurisdiction.”<sup>7</sup> In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act, unless the Commission has developed one or more definitions that are appropriate to its activities.<sup>8</sup> Under the Small Business Act, a “small business concern” is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) meets any additional criteria established by the Small Business Administration (SBA).<sup>9</sup>

**Fixed Microwave Services.** The rechannelization will affect all common carrier and private operational fixed microwave licensees who are authorized under Part 101 of the Commission’s Rules for use of the 18 GHz spectrum. Microwave services include common carrier,<sup>10</sup> private-operational fixed,<sup>11</sup> and broadcast auxiliary radio services.<sup>12</sup> At present, there are approximately 36,708 common carrier fixed

<sup>6</sup> 5 U.S.C. §§ 603(b)(3), 604(a)(3).

<sup>7</sup> 5 U.S.C. § 601(6).

<sup>8</sup> 5 U.S.C. § 601(3) (incorporating by reference the definition of “small business concern” in 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, established one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition in the Federal Register.”

<sup>9</sup> 15 U.S.C. § 632.

<sup>10</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>11</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>12</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.



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 FRFA, we will use the SBA's definition applicable to Cellular and other Wireless Telecommunications companies – *i.e.*, an entity with no more than 1,500 persons.<sup>13</sup> According to Census Bureau data for 1997, there were 977 firms in this category, total, that operated for the entire year.<sup>14</sup> Of this total, 965 firms had employment of 999 or fewer employees, and an additional twelve firms had employment of 1,000 employees or more.<sup>15</sup> Thus, under this size standard, a 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.

**Small MVPDs:** SBA has developed a small business size standard for cable and other program distribution services, which includes all such companies generating \$13.0 million or less in revenue annually.<sup>16</sup> This category includes, among others, cable operators, direct broadcast satellite (“DBS”) services, home satellite dish (“HSD”) services, multipoint distribution services (“MDS”), multichannel multipoint distribution service (“MMDS”), Instructional Television Fixed Service (“ITFS”), local multipoint distribution service (“LMDS”), satellite master antenna television (“SMATV”) systems and open video systems (“OVS”). According to the Bureau of Census, there were 1,311 total cable and other pay television service firms that operate throughout the year of which 1,180 have less than \$10 million in revenue.<sup>17</sup> We will address each service individually to provide as precise of an estimate of small entities as available data allows.

**Cable Operator:** The Commission has developed, with SBA's approval, its own definition of a small cable system operator for the purposes of rate regulation. Under the Commission's Rules, a “small cable company,” is one serving fewer than 400,000 subscribers nationwide.<sup>18</sup> Based on our most recent information, we last estimated that there were 1,439 cable operators that qualified as small cable companies.<sup>19</sup> Since then, some of those companies may have grown to serve over 400,000 subscribers, and others may have been involved in transactions that caused them to be combined with other cable operators. Consequently, we estimate that there are fewer than 1,439 small entity cable system operators that may be affected by the decisions and rules adopted in this *Report and Order*. The Communications Act of 1934, as amended, also contains a definition of a small cable system operator,

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<sup>13</sup> 13 C.F.R. § 121.201, NAICS code 517212.

<sup>14</sup> U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Employment Size of Firms Subject to Federal Income Tax: 1997,” Table 5 (issued Oct. 2000).

<sup>15</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 “Firms with 1,000 employees or more.”

<sup>16</sup> 13 C.F.R. § 12.201 (NAICS Code 513220). This NAICS Code applies to all services listed in this paragraph.

<sup>17</sup> Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1997 Economic Census, Subject Series – Establishment and Firm Size, Information Sector 51, Table 4 at 50 (2000). The amount of \$10 million was used to estimate the number of small business firms because the relevant Census categories stopped at \$9,999,999 and began at \$10,000,000. No category for \$12.5 million existed. Thus, the number is as accurate as it is possible to calculate with the available information.

<sup>18</sup> 47 C.F.R. § 76.901(e). The Commission developed this definition based on its determination that a small cable system operator is one with annual revenues of \$100 million or less. *Sixth Report and Order and Eleventh Order on Reconsideration*, 10 FCC Rcd. 7393 (1995).

<sup>19</sup> Paul Kagan Associates, Inc. Cable TV Investor, February 29, 1996 (based on figures for December 30, 1995.)

which is “a cable operator that, directly or through an affiliate, serves in the aggregate fewer than one percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed \$250,000,000.”<sup>20</sup> The Commission has determined that there are 68,500,000 subscribers in the United States.<sup>21</sup> Therefore, we found that an operator serving fewer than 685,000 subscribers shall be deemed a small operator, if its annual revenues, when combined with the total annual revenues of all of its affiliates, do not exceed \$250 million in the aggregate.<sup>22</sup> Based on available data, we find that the number of cable operators serving 677,000 subscribers or less totals 1,450.<sup>23</sup> Although it seems certain that some of these cable system operators are affiliated with entities whose gross annual revenues exceed \$250,000,000, we are unable at this time to estimate with greater precision the number of cable system operators that would qualify as small cable operators under the definition in the Communications Act.

**Multichannel Multipoint Distribution Service (“MMDS”).** MMDS Systems, often referred to as “wireless cable,” transmit video programming to subscribers using microwave frequencies.<sup>24</sup> In connection with the 1996 MMDS auction, the Commission defined small businesses as entities that had annual average gross revenues of less than \$40 million in the previous three calendar years.<sup>25</sup> This definition of a small entity in the context of MDS auctions has been approved by the SBA.<sup>26</sup> The MDS auctions resulted in 67 successful bidders obtaining licensing opportunities for 493 Basic Trading Areas (“BTAs”). Of the 67 auction winners, 61 met the definition of a small business. Information available to us indicates that no MMDS facility generates revenue in excess of \$11 million annually. We conclude that there are approximately 1634 small MMDS providers as defined by the SBA and the Commission’s auction rules.

**Satellite Master Antenna Television (“SMATV”) Systems.** The SBA definition of small entities for cable and other program distribution services includes SMATV services and, thus, small entities are defined as all such companies generating \$13.0 million or less in annual receipts.<sup>27</sup> Industry sources estimate that approximately 5,200 SMATV operators were providing service as of December 1995.<sup>28</sup> Other estimates indicate that SMATV operators serve approximately 1.5 million residential subscribers as of July 2001.<sup>29</sup> The best available estimates indicate that the largest SMATV operators serve

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<sup>20</sup> 47 U.S.C. § 543(m)(2).

<sup>21</sup> See FCC Announces New Subscriber Count for the Definition of Small Cable Operator, 16 FCC Rcd 2225 (2001).

<sup>22</sup> 47 C.F.R. § 76.1403(b).

<sup>23</sup> Paul Kagan Associates, Inc., Cable TV Investor, Feb. 29, 1996 (based on figures for Dec. 30, 1995).

<sup>24</sup> Amendment of Parts 21 and 74 of the Commission’s Rules with regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act-Competitive Bidding, 10 FCC Rcd 9589, 9593 (1995) (“*ITFS Order*”).

<sup>25</sup> 47 C.F.R. § 21.961(b)(1).

<sup>26</sup> See *ITFS Order*, 10 FCC Rcd at 9589.

<sup>27</sup> 13 C.F.R. § 121.201 (NCAIS Code 517510).

<sup>28</sup> See Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming, 12 FCC Rcd 4358, 4403-04 (1996)

<sup>29</sup> See Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming, 17 FCC Rcd 1244, 1281 (2001).

between 15,000 and 55,000 subscribers each. Most SMATV operators serve approximately 3,000-4,000 customers. Because these operators are not rate regulated, they are not required to file financial data with the Commission. Furthermore, we are not aware of any privately published financial information regarding these operators. Based on the estimated number of operators and the estimated number of units served by the largest ten SMATVs, we believe that a substantial number of SMATV operators qualify as small entities.

**Open Video Systems (“OVS”).** Because OVS operators provide subscription services, OVS falls within the SBA-recognized definition of cable and other program distribution services. This definition provides that a small entity is one with \$13.0 million or less in annual receipts.<sup>30</sup> The Commission has certified 25 OVS operators with some now providing service. Affiliates of Residential Communications Network, Inc. (RCN) received approval to operate OVS systems in New York City, Boston, Washington, D.C. and other areas. RCN has sufficient revenues to assure us that they do not qualify as small business entities. Little financial information is available for the other entities authorized to provide OVS service but have not yet begun to generate revenues, we conclude that at least some of the OVS operators qualify as small entities.

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

Under the decisions contained in the *Report and Order*, we are effecting a change wherein we will allow 18 GHz band applicants to operate on spectrum utilizing different bandwidth channels in addition to the ones already in existence. The decisions herein do not include any changes in the language of FCC Forms nor do they require extra filings. We are also allowing certain flexibility for some future modifications to be achieved without the necessity of filing further applications. To protect Federal Government earth stations that may be authorized in the Denver, Colorado, and Washington, D.C., areas, we adopt provisions requested by the National Telecommunications and Information Administration (NTIA) whereby the Commission will coordinate through the Frequency Assignment Subcommittee of the Interdepartment Radio Advisory Committee (IRAC) applications in the 17.7-17.8 GHz band for MVPD operations.

#### **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>31</sup>

In this *Report and Order*, we revise our rules to reduce regulatory burdens for 18 GHz band terrestrial FS licensees that are subject to involuntary relocation from the 18.3-19.3 GHz band pursuant to the Commission’s reallocation of that band for exclusive satellite services use in IB Docket No. 98-172. These FS licensees will relocate to spectrum at 17.7-18.3 GHz and 19.3-19.7 GHz, where Part 101 currently designates channel sizes that are too large relative to the needs of some relocating point-to-point microwave licensees and too small relative to the needs of relocating PCOs and other MVPDs. The

<sup>30</sup> 13 C.F.R. § 121.201 (NCAIS Code 517510).

<sup>31</sup> 5 U.S.C. § 603(c).

instant *Report and Order* revises the rules to add new channel sizes in both bands along with special rules for MVPDs within the 17.7-18.3 GHz band, thereby facilitating the relocation.

Specifically, we adopt a revised band plan for the FS paired and unpaired spectrum at 17.7-18.3 GHz and 19.3-19.7 GHz, consisting of a variety of channel bandwidths, primarily by adding narrower bandwidths, and a block of unpaired spectrum from 17.7-17.74 GHz. In addition, we permit applicants to request any amount of spectrum available based on their specific needs. We find that this flexibility will promote the more efficient use of the terrestrial 18 GHz band by allowing FS licensees to request the amount of spectrum that they need, rather than having to request larger bandwidth channels or seek a waiver of the Commission's Rules. The additional flexibility and the elimination of the regulatory burden of seeking waivers will also promote small entities' access to spectrum for FS operations, both as relocating incumbents and as new entrants. Further, we find that permitting unpaired use by any FS licensee of the 17.7-17.74 GHz sub-band will provide additional opportunities for small entities to access spectrum. Moreover, licensees will be permitted to pair channels in the 17.7-17.74 GHz sub-band with other channels in the terrestrial 18 GHz band.

In addition, the *Report and Order* designates a contiguous 600 megahertz block of one-way spectrum from 17.7-18.3 GHz for use by MVPDs, who will have flexibility within such block to determine the appropriate bandwidths and other technical parameters of their MVPD operations. Although the Commission originally proposed to designate only a 500 megahertz block for use by MVPDs, we conclude in this *Report and Order* that the additional 100 megahertz of spectrum will offer small entities a reasonably cost effective transmission solution to compete with large telecommunications and cable companies.

In this *Report and Order*, we also provide channel flexibility to grandfathered MVPDs in the 18.3-18.58 GHz band, which was previously designated for non-primary use by MVPDs. Specifically, we find that it is in the public interest to adopt the proposal in the *18 GHz Rechannelization Notice*<sup>32</sup> to retain the 18.3-18.58 GHz sub-band for grandfathered MVPDs given its adjacency to the 17.7-18.3 GHz band that we are designating for MVPDs today.<sup>33</sup> We believe this approach is appropriate because it preserves the status of the grandfathered terrestrial licensees in the 18.3-18.58 GHz sub-band, many of which are small entities.

We also adopt a requirement that all MVPD applications (under Parts 74, 78, or 101) seeking authority to operate in the 17.7-17.8 GHz band near Denver, Colorado, and Washington, D.C. be coordinated with the Federal Government by the Commission before an authorization will be issued in order to protect government satellite operations in those areas. The Commission considered requiring applicants to coordinate their applications directly with IRAC at the same time of filing their applications with the Commission. However, we find that it may be less burdensome on small entities if the Commission were to coordinate the applications through IRAC rather than requiring applicants to do so. In addition, we sought to minimize the potential burden on all entities by limiting both the scope of operations and geographical areas that will be subject to this requirement.

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<sup>32</sup> *18 GHz Rechannelization Notice*, 19 FCC Rcd at 7266 ¶ 11.

<sup>33</sup> The Commission decided in IB Docket No. 98-172 that no applications for new Part 101 stations in the 18.3-18.58 GHz band would be accepted after November 19, 2002. See, e.g., *Second Order on Reconsideration*, 17 FCC Rcd at 24252 ¶ 11. Then-existing Part 101 applications and licenses were grandfathered. See 47 C.F.R. §§ 101.85, 101.147(r).

**F. Report to Congress**

The Commission will send a copy of the *Report and Order*, including this FRFA, in a report to be sent to Congress pursuant to the SBREFA.<sup>34</sup> In addition, the Commission will send a copy of the *Report and Order*, including the FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Report and Order* and the FRFA (or summaries thereof) will also be published in the Federal Register.<sup>35</sup>

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<sup>34</sup> See 5 U.S.C. § 801(a)(1)(A).

<sup>35</sup> See 5 U.S.C. § 604(b).

**APPENDIX E****LIST OF COMMENTING PARTIES (WT Docket No. 04-143)****A. Comments**

- (1) Alcatel
- (2) Comsearch
- (3) Fixed Wireless Communications Coalition and the National Spectrum Managers Association (FWCC/NSMA)

**B. Reply Comment**

- (1) FWCC/NSMA

**C. *Ex Parte*/Late Filed Comments/Other**

- (1) Independent Multi-Family Communications Council (IMCC)
- (2) FWCC
- (3) National Telecommunications and Information Administration (NTIA)

**STATEMENT OF  
COMMISSIONER JONATHAN S. ADELSTEIN**

*Re: Rechannelization of the 17.7-19.7 GHz Frequency Band for Fixed Microwave Services under Part 101 of the Commission's Rules; Report and Order, WT Docket No. 04-143*

Earlier this year, in a speech to the National Spectrum Managers Association, I noted that the Commission was long overdue on ruling on a petition to rechanelize the 18 GHz band. While this item may be a little "under the radar screen," it is a long-awaited decision for the fixed wireless community, and I wholeheartedly support our action today.

Our item serves dual purposes. Not only will it facilitate relocation of fixed microwave facilities in and around the band, equally as important, our decision puts in place a new channelization plan for the 18 GHz band that promotes spectrum efficiency by allowing licensees to use smaller channels for the capacity needs. As the demand for spectrum grows on a daily basis, the Commission should always do what we can to encourage more efficient use of the spectrum resource.