

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	
(* channels are no longer available on primary basis)	
-----	
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  
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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:

-----	Receive
Transmit (receive) (MHz)	(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:

Transmit (receive) (MHz)	Receive (transmit) (MHz)
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 1560 Megahertz Separation  
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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.

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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

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<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 Rechannalization 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 Rechannalization 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: Rechannalization 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 rechannelize 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.