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

In the Matter of	)	
	)	
Amendment of Part 2 of the Commission's Rules	)	ET Docket No. 00-258
to Allocate Spectrum Below 3 GHz for Mobile	)	
and Fixed Services to Support the Introduction of	)	
New Advanced Wireless Services, including Third	)	
Generation Wireless Systems	)	
	)	
Service Rules for Advanced Wireless Services	)	WT Docket No. 02-353
In the 1.7 GHz and 2.1 GHz Bands	)	

NINTH REPORT AND ORDER AND ORDER

Adopted: April 12, 2006 **Released: April 21, 2006**

By the Commission: Commissioners Adelstein and Tate issuing separate statements.

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I. INTRODUCTION

1. In this *Ninth Report and Order* ("*Ninth R&O*") in ET Docket No. 00-258, we establish procedures for the relocation of Broadband Radio Service (BRS) operations from the 2150-2160/62 MHz band.[1] We also establish procedures for the relocation of Fixed Microwave Service (FS) operations from the 2160-2175 MHz band and modify existing relocation procedures for the 2110-2150 MHz and 2175-2180 MHz bands. In addition, we adopt cost-sharing rules to identify the reimbursement obligations for Advanced Wireless Service (AWS) and Mobile Satellite Service (MSS) entrants benefiting from the relocation of incumbent FS operations in the 2110-2150 MHz and 2160-2200 MHz bands and AWS entrants benefiting from the relocation of BRS incumbents in the 2150-2160/62 MHz band. The Commission, in earlier decisions in this docket, has allocated the spectrum in the 2150-2160/62 MHz and 2160-2175 MHz bands for AWS.[2] Advanced wireless systems could provide, for example, a wide range of voice, data, and broadband services over a variety of mobile and fixed networks. In establishing these relocation procedures, we facilitate the introduction of AWS in these bands, while also ensuring the continuation of BRS and FS service to the public. In the *Order* in WT Docket No. 02-353, we dismiss a petition for reconsideration filed by the Wireless Communications Association International, Inc. (WCA) as moot.

II. BACKGROUND

2. Over the course of this proceeding, we have considered whether various spectrum bands should be used for AWS and, if so, what relocation mechanisms would be appropriate to relocate existing services in the bands. This *Ninth R&O* looks primarily at relocation procedures for 25 megahertz of spectrum at 2150-2160/62 MHz and 2160-2175 MHz that has already been reallocated for AWS and that contains incumbent BRS and FS licensees.

3. BRS operations in the 2150-2160/62 MHz band consist of two channels – channel 1 (2150-2156 MHz) and channel 2A (2156-2160 MHz).[3] Licensees may also use channel 2 (2156-2162

[1] The Multipoint Distribution Service (MDS) was renamed the Broadband Radio Service (BRS) in the *BRS R&O*. *See* Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 MHz and 2500-2690 MHz Bands, WT Docket No. 03-66, *Report and Order and Further Notice of Proposed Rulemaking*, 19 FCC Rcd 14165 (2004) ("*BRS R&O and FNPRM*"); *Third Memorandum Opinion and Order and Second Report and Order,* FCC 06-46 (adopted April 12, 2006) ("*BRS Third MO&O and Second R&O*"). Therefore, all former MDS licensees are now referred to as BRS licensees. As noted in para. 3, *infra,* BRS uses 2160-2162 MHz only in the top 50 markets. In WT Docket 03-66, as part of an overall restructuring of the BRS spectrum, the Commission established a channel plan in the 2496-2690 MHz band that is designed to accommodate BRS licensees that currently operate in the 2150-2162 MHz band.

[2] Advanced Wireless Service (AWS) is the collective term we use for new and innovative fixed and mobile terrestrial wireless applications using bandwidth that is sufficient for the provision of a variety of applications, including those using voice and data (such as Internet browsing, message services, and full-motion video) content. Although AWS is commonly associated with so-called third generation (3G) applications and has been predicted to build on the success of such current-generation commercial wireless services as cellular and Broadband PCS, the services ultimately provided by AWS licensees are only limited by the fixed and mobile designation of the spectrum we allocate for AWS and the service rules we ultimately adopt for the bands.

[3] Historically, the 2150-2160/62 MHz and 2500-2690 MHz bands were predominantly used for one-way analog video transmission. Increasingly, BRS operators are using these bands for two-way digital broadband services. In October 1996, the Commission decided to allow high-speed digital data applications on BRS operations, including Internet access. Then, in 1998, the Commission approved the use of two-way transmissions by the BRS, effectively enabling the provision of voice, video, and data services. In 2001, a mobile, except aeronautical mobile, service allocation was added to the 2500-2690 MHz band. *See* Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, ET Docket No. 00-258, *First Report and Order and Memorandum Opinion and Order*, 16 FCC Rcd 17222 (2001) ("*AWS First R&O and MO&O*"). Under an informal (continued….)

MHz) on a limited basis in 50 cities.[4] This spectrum was first identified for potential reallocation in the 2001 *AWS Further Notice*.[5] At that time, the Commission proposed that, in the event that it reallocated frequency bands used by BRS, it would look to the *Emerging Technologies* principles by which new entrants were obligated to provide incumbents with comparable facilities in order to obtain early access to the spectrum.[6] The BRS Channel 1 and 2A spectrum was reallocated in two subsequent proceedings: the *AWS Second R&O*, in which the Commission reallocated and designated a five megahertz portion of the BRS band at 2150-2155 MHz that is now part of the 90 megahertz of AWS spectrum that is part of the upcoming Auction No. 66;[7] and the *AWS Eighth R&O*, in which the 2155-2160 MHz portion of the band was reallocated.[8]

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agreement among BRS licensees, the principal use of the 2150-2160/62 MHz band is for response stations transmitting to hub stations, which are generally known as upstream communications. A response station in a two-way system is a customer-premises transceiver used for the reception of downstream and transmission of upstream signals as part of a large system of such stations licensed under the authority of a single license. A downstream maximum equivalent isotropic radiated power (e.i.r.p.) of 33 dBW (2000 Watts) per six megahertz is permitted. A hub station is a receive-only station licensed as part of a system of response stations in a two-way system and used for the purpose of receiving the upstream transmissions of those response stations. *See* Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, ET Docket No. 00-258, *Third Report and Order, Third Notice of Proposed Rule Making, and Second Memorandum Opinion and Order,* 18 FCC Rcd 2223 at 2253-54, ¶ 66, n.163 (2003) ("*AWS Third R&O, Third NPRM and Second MO&O*").

[4] The Commission provided the BRS service with an extra two megahertz in the 50 largest metropolitan areas so that there would be sufficient bandwidth (six megahertz) for a second analog television channel. The two megahertz at 2160-2162 MHz can only be assigned where there is evidence that no harmful interference would occur to any authorized co-frequency point-to-point facility. *See* 47 C.F.R. § 27.5(i)(1); Amendment of Parts 1, 2, 21, and 43 of the Commission's Rules and Regulations to Provide for Licensing and Regulation of Common Carrier Radio Stations in the Multipoint Distribution Service, Docket No. 19493, *Report and Order,* 45 FCC 2d 616 (1974), *recon. denied,* 57 FCC 2d 301 (1975).

[5] *See* Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, ET Docket No. 00-258, *Memorandum Opinion and Order and Further Notice of Proposed Rule Making*, 16 FCC Rcd 16043 at 16060-61, ¶¶ 38-41 (2001) ("*AWS Further Notice*"). BRS operations in the 2160-2162 MHz band had previously been identified, as part of the 2160-2165 MHz band, as potential AWS spectrum in the underlying *Notice of Proposed Rulemaking* that initiated this docket. *See* Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, ET Docket No. 00-258, *Notice of Proposed Rule Making and Order*, 16 FCC Rcd 596 (2001) ("*AWS Notice*").

[6] *See AWS Further Notice*, 16 FCC Rcd at 16061, ¶ 40.

[7] *See* Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, ET Docket No. 00-258, *Second Report and Order,* 17 FCC Rcd 23193, 23212-13 at ¶¶ 40-41 (2002) ("*AWS Second R&O*"). In that decision, the Commission also recognized that the reallocation of the five megahertz spectrum block to AWS raised a number of issues, including the establishment of a relocation plan for incumbent licensees, but left these matters for future rulemaking decisions within the proceeding. *See also* FCC to Commence Spectrum Auction that will Provide American Consumers New Wireless Broadband Services, *News Release*, (rel. Dec. 29, 2004) (describing plans for Auction No. 66). We previously adopted service rules for this band. *See* Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, WT Docket No. 02-353, *Report and Order*, 18 FCC Rcd 25162 (2003) ("*AWS-1 Service Rules Order*"); *Order on Reconsideration*, 20 FCC Rcd 14058 (2005).

[8] *See* Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, ET Docket No. 00-258, *Eighth Report and Order, Fifth Notice of Proposed Rule Making, and Order*, 20 FCC Rcd 15866 (2005) ("*AWS Eighth R&O and Fifth Notice*"). With respect to the 2155-2160/62 MHz band, (continued….)

4. BRS operations in the 2150-2160/62 MHz band are now regulated under Part 27 of our Rules.[9] In 1992, the Commission implemented a rule by which incumbent BRS licensees that were using the 2160-2162 MHz band would continue such use on a primary basis.[10] However, any BRS station that applied for use of this band after January 16, 1992, would be granted a license only on a secondary basis to emerging technology use.[11] In 1996, the Commission auctioned licenses for BRS channels on a Basic Trading Area (BTA) basis but noted that BRS channel 2 licenses using the 2160-2162 MHz band were secondary to emerging technology licenses.[12]

5. On July 29, 2004, the Commission released the *BRS R&O and FNPRM* in WT Docket No. 03-66 that initiated a fundamental restructuring of BRS operations, including those licensees operating on channels 1 and 2/2A.[13] This decision, which was intended to provide existing and new licensees with enhanced flexibility to provide high-value services in a newly expanded 2496-2690 MHz band, included a revised band plan designed to re-accommodate existing BRS licensees in the 2150-2160/62 MHz band to other frequencies in order to allow these licensees to be integrated with similar operations.[14] Specifically, the Commission adopted a band plan in which existing BRS channel 1 (2150-

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which consists of BRS channels 2 and 2A and the upper one megahertz of BRS channel 1, we have not yet established new service rules for this band.

[9] *See* 47 C.F.R. Part 27 – Miscellaneous Wireless Communications Services (2004); *BRS R&O and FNPRM*, 19 FCC Rcd 14165 (2004).

[10] The Commission took this action as part of the reallocation of the larger 2160-2165 MHz band to emerging technologies. *See* Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, ET Docket No. 92-9, *First Report and Order and Third Notice of Proposed Rule Making*, 7 FCC Rcd 6886 at 6889-90, ¶ 21 (1992) ("*Emerging Technologies First R&O and Third NPRM*"). In the *AWS Third NPRM,* the Commission noted that there were 27 BRS licenses for the 2160-2162 MHz band on a primary basis. *See* Appendix E, attached to the *AWS Third NPRM.*

[11] *See* 47 C.F.R. § 2.106, footnote NG153.

[12] *See* http://wireless.fcc.gov/auctions/06/ for information on Auction No. 6. This auction made available a maximum of 78 megahertz of primary spectrum in each BTA, but with the caveat that BTA licensees would protect incumbent stations. In the MDS Bidder Information Package, the Commission noted: "In 1992, the 2160-2162 MHz frequency was reallocated to emerging technologies, and thus, any subsequent MDS use of these 2 MHz will be secondary." *See* FCC Auction [for] Multipoint and/or Multichannel Distribution Service (MDS) Authorizations for Basic Trading Areas, Bidder Information Package (1995), at 21 (available at http://wireless.fcc.gov/auctions/06/releases.html). In the *AWS Third NPRM,* the Commission noted that there were 16 BRS stations operating with secondary status. *See* Appendix E, attached to the *AWS Third NPRM.*

[13] *See BRS R&O and FNPRM*, 19 FCC Rcd at 14169-70, ¶ 6. The Commission had previously considered but rejected the use of the 2500-2690 MHz band for AWS. *See AWS First R&O and MO&O*, 16 FCC Rcd 17222 (2001). The Commission adopted a primary Fixed and Mobile (except aeronautical mobile) allocation for the 2495-2500 MHz band so that this spectrum could be integrated with the revised BRS band plan in the 2500-2690 MHz band. *See* Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands; Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Service to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems, IB Docket No. 02-364, ET Docket No. 00-258, *Report and Order, Fourth Report and Order and Further Notice of Proposed Rulemaking*, 19 FCC Rcd 13386 (2004) ("*Big LEO Spectrum Sharing Order*"), *aff'd by Order on Reconsideration and Fifth Memorandum Opinion and Order*, FCC 06-46 (adopted April 12, 2006).

[14] *See BRS R&O*, 19 FCC Rcd at 14177-78, ¶¶ 23-24. There are other BRS channels in the 2596-2644 MHz, 2650-2656 MHz, 2662-2668 MHz, and 2674-2680 MHz bands, as well as response channels in the 2686-2690 MHz band. *See AWS First R&O and MO&O*, 16 FCC Rcd 17222 (2001).

2156 MHz) would transition to the new BRS channel 1 at 2496-2502 MHz and existing BRS channel 2/2A (2156-2160/62 MHz) to the new BRS channel 2 at 2618-2624 MHz.[15]

6. The 2160-2165 MHz band is currently used in the United States for non-Federal Government fixed and mobile services licensed under the Miscellaneous Wireless Communications Services in Part 27 of the Rules (formerly licensed as the Domestic Public Fixed Radio Services in Part 21 of the Rules), the Public Mobile Services under Part 22 of the Rules, and the Fixed Microwave Services in Part 101 of the Rules.[16] The Commission originally identified the 2160-2165 MHz band for new advanced fixed and mobile services in the 1992 *Emerging Technologies* proceeding and adopted rules and procedures to permit new licensees to relocate existing fixed microwave services from this spectrum band.[17] This band was first identified as suitable AWS spectrum in 2001, as part of the *AWS Notice*.[18]

7. The 2165-2175 MHz band is currently used by commercial and private FS licensees. These licensees provide telephone communications, communications for industry, and public safety communications.[19] This spectrum had previously been reallocated for 2 GHz MSS operations, but, as part of the *AWS Third R&O*, was further reallocated to Fixed and Mobile services in order to promote the introduction of new advanced services, including AWS.[20] Because MSS operations had not commenced in the band at the time the spectrum was reallocated for AWS, and therefore no relocation proceedings had been initiated, the legacy FS licensees continue to operate in the band. The FS operations in these bands are typically configured to provide two-way microwave communications between paired links. In this case, the FS links in the 2160-2200 MHz band (of which the 2160-2175 MHz band at issue in this decision is a subset) are paired with the links in the 2110-2150 MHz band. We note that the 2110-2150 MHz band was part of the 90 megahertz reallocated for AWS in the *AWS Second R&O*.[21] In the *AWS Eighth R&O*, the Commission designated the 2155-2175 MHz band for AWS use and, as indicated above, allocated the 2155-2160 MHz band to Fixed and Mobile Services in order to allow the provision of AWS in this band.[22]

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[15] *See BRS R&O*, 19 FCC Rcd at 14183-84, ¶ 37-38.

[16] *See* 47 C.F.R. Parts 22, 27, and 101. As discussed above, the 2160-2162 MHz portion of this band also includes BRS Channel 2 licensees.

[17] *See Emerging Technologies First R&O and Third NPRM*, 7 FCC Rcd at 6889-90, ¶ 21.

[18] *See AWS Notice*, 16 FCC Rcd 596 (2001).

[19] *See* Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service, ET Docket No. 95-18, *Third Report and Order and Third Memorandum Opinion and Order,* 18 FCC Rcd 23638 at ¶ 65 (2003) ("*MSS Third R&O*").

[20] *See AWS Third R&O*, 18 FCC Rcd 2223 at 2238, ¶ 28. The 2165-2175 MHz band was part of the larger 2165-2180 MHz band that was reallocated in the *AWS Third R&O* from MSS use. This reallocated MSS spectrum was originally part of a 2165-2200 MHz band designated for satellite downlink operations.

[21] *See AWS Second R&O*, 17 FCC Rcd 23193 (2002).

[22] *AWS Eighth R&O*, 20 FCC Rcd at 15872, ¶ 9. We note that we are not deciding here how to assign this new AWS spectrum at 2155-2175 MHz but will consider this issue in a separate service rules proceeding at a later date. We also note that a current bilateral agreement in the 2155-2160/62 MHz band between the United States and Canada provides for coordinated use of BRS and Educational Broadband Service (EBS) along the common border. The sharing of the 2160/62-2175 MHz band between the United States and Canada is covered by Arrangement A of the *Agreement Concerning the Coordination and Use of Radio Frequencies Above Thirty Megacycles per Second*, with Annex, as amended. There are no agreements with Mexico in the 2155-2175 MHz band. Accordingly, we note that there may be a need to negotiate new or modified agreements to provide for more flexible use of the spectrum with Canada and Mexico along the common international borders. *Id.* at 15872, ¶ 10.

8. Throughout the AWS proceedings, the Commission has examined the relocation needs for licensees that occupy reallocated spectrum bands and has previously sought comment on the use of the *Emerging Technologies* policies for the relocation of these licensees.[23] The relocation policy adopted in the *Emerging Technologies* proceeding was designed to allow early entry for new technology providers into reallocated spectrum by allowing providers of new services to negotiate financial arrangements for the reaccommodation of incumbent licensees.[24] Our relocation policy was also designed to allow gradual relocation of incumbents during which, as the new entrant deployed individual sites throughout its geographic licensed area over time, the new entrant was then obligated to relocate incumbent facilities on a link-by-link basis (in the case of microwave facilities), based on an interference analysis using specified interference criteria.[25] In addition, under our *Emerging Technologies* policy, new entrants were required to provide incumbents with comparable replacement facilities that would allow them to maintain the same service in terms of three factors: throughput, reliability, and operating costs.[26] Further, our policy provided for two stages of negotiations – a voluntary period, followed by a mandatory period – during which new entrants and incumbents were required to negotiate the terms for relocation in good faith.[27] Recent relocation decisions have forgone the voluntary stage and instead required only a mandatory negotiation period.[28] If no agreement was reached during negotiations, the new entrant was permitted to proceed to the involuntary relocation of the incumbent. During the involuntary relocation process, our *Emerging Technologies* procedures required new entrants to construct, test, and deliver replacement facilities comparable to facilities in use by the incumbent at the time of relocation, subject to a one year "right of return" (*i.e.,* if after a twelve month trial period the new facilities prove not to be comparable to the old facilities, the incumbent could return to the old frequency band or otherwise be relocated or reimbursed).[29] Finally, our *Emerging Technologies* policy applies a sunset rule to relocations, typically a ten year period, after which new entrants are no longer obligated to pay relocation expenses to incumbents and may require that the incumbent cease operations.[30]

9. Most recently, the *AWS Fifth Notice* sought comment on the use of the *Emerging Technologies* policies in establishing specific relocation procedures that are applicable to BRS operations

[23] *See, e.g., AWS Third NPRM*, 18 FCC Rcd at 2256-57, ¶¶ 71-73 (exploring the relocation needs for the BRS licensees in the 2150-2160/62 MHz band).

[24] *See* Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, ET Docket No. 92-9, *First Report and Order and Third Notice of Proposed Rule Making*, 7 FCC Rcd 6886 (1992); *Second Report and Order*, 8 FCC Rcd 6495 (1993); *Third Report and Order and Memorandum Opinion and Order*, 8 FCC Rcd 6589 (1993); *Memorandum Opinion and Order*, 9 FCC Rcd 1943 (1994); *Second Memorandum Opinion and Order*, 9 FCC Rcd 7797 (1994); *aff'd Association of Public Safety Communications Officials-International, Inc. v. FCC*, 76 F.3d 395 (D.C. Cir. 1996) (collectively, "*Emerging Technologies* proceeding"). *See also Teledesic, LLC v. FCC*, 275 F.3d 75 (D.C. Cir. 2001) (affirming modified relocation scheme for new satellite entrants to the 17.7 – 19.7 GHz band). *See also* Amendment to the Commission's Rules Regarding a Plan for Sharing the Costs of Microwave Relocation, WT Docket No. 95-157, *First Report and Order and Further Notice of Proposed Rule Making* , 11 FCC Rcd 8825 (1996); *Second Report and Order*, 12 FCC Rcd 2705 (1997); *Memorandum Opinion and Order on Reconsideration*, 15 FCC Rcd 13999 (2000) (collectively, "*Microwave Cost Sharing* proceeding").

[25] *Id.*

[26] *See Emerging Technologies Third R&O*, 8 FCC Rcd at 6591 & 6603, ¶¶ 5 & 36; *Microwave Cost Sharing First R&O*, 11 FCC Rcd 8825 at ¶¶ 27-34.

[27] *See Emerging Technologies Third R&O*, 8 FCC Rcd at 6595, ¶ 15.

[28] *See, e.g.,* Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service, ET Docket No. 95-18, *Second Report and Order and Second Memorandum Opinion and Order*, 15 FCC Rcd 12315 (2000) ("*MSS Second R&O and Second MO&O*").

[29] *See Emerging Technologies First R&O*, 7 FCC Rcd 6886 at ¶ 24.

[30] *See Microwave Cost Sharing First R&O*, 11 FCC Rcd 8825 at ¶¶ 65-68.

in the 2150-2160/62 MHz band, as well as for the relocation of FS incumbents in the 2160-2175 MHz band. In the *Order* portion of the *AWS Eighth R&O, Fifth Notice and Order*, the Commission required that BRS licensees in the 2150-2160/62 MHz band provide information on the construction status and operational parameters of each incumbent BRS system that would be the subject of relocation.[31] The record developed in response to the *AWS Fifth Notice* and *Order*, as well as in the broader AWS docket, provides the basis for the relocation procedures we establish in this *Ninth R&O*.

III. NINTH REPORT AND ORDER

10. In this *Ninth R&O,* we discuss the specific relocation procedures that will apply to BRS and FS incumbents in the 2150-2160/62 MHz and 2160-2175 MHz bands, respectively.[32] We also discuss the cost-sharing rules that identify the reimbursement obligations for AWS and MSS entrants benefiting from the relocation of incumbent FS operations in the 2110-2150 MHz and 2160-2200 MHz bands and AWS entrants benefiting from the relocation of BRS incumbents in the 2150-2160/62 MHz band.

A. Relocation of BRS in the 2150-2160/62 MHz Band

11. In the *AWS Fifth Notice,* we proposed to generally apply our *Emerging Technologies* policies to the relocation procedures new AWS entrants should follow when relocating BRS incumbent licensees from the 2150-2160 MHz band.[33] Comments generally support our proposal to use *Emerging Technologies* policies for relocation, with modifications to accommodate the incumbents in the band at issue.[34] The Commission has used the *Emerging Technologies* policies in establishing relocation schemes for a variety of new entrants, such as Personal Communications Services (PCS) licensees, MSS licensees, 18 GHz Fixed Satellite Service (FSS) licensees, and Sprint Nextel, in frequency bands occupied by different types of incumbent operations.[35] In establishing these relocation schemes, the Commission

[31] *See AWS Eighth R&*O, *Fifth Notice and Order*, 20 FCC Rcd 15866, 15890 at ¶ 53. *See also* "Licensees of Broadband Radio Service Channels 1 and/or 2/2A Must File Site and Technical Data By December 27, 2005," *Public Notice*, DA 05-3126 (rel. November 30, 2005) ("*BRS Data Collection Public Notice*").

[32] Several parties commented on issues regarding the Commission's new BRS band plan at 2496-2690 MHz and its suitability as replacement spectrum for BRS incumbents currently occupying the 2150-2160/62 MHz band. *See, e.g.,* WCA Comments at 46-50; Polar/Northern Wireless Reply at 9-10; W.A.T.C.H. TV Reply at 8; Sprint Nextel Reply at 8-10; SpeedNet Reply at 3; C&W Reply at 3; BellSouth Reply at 7. These issues have been addressed in the *Big LEO Spectrum Sharing Order on Reconsideration and Fifth MO&O, BRS/EBS Third MO&O and Second R&O*, FCC 06-46 (adopted April 12, 2006).

[33] *See generally, AWS Fifth Notice*, 20 FCC Rcd at 15873-82, ¶¶ 13-29.

[34] *See, e.g.,* Verizon Comments at 2; CTIA Comments at 3-4; US Cellular Reply at 2; T-Mobile Reply at 1-2.

[35] *See*, *e.g*., *supra* note 24; Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for use by the Mobile-Satellite Service, ET Docket No. 95-18, *Second Report and Order and Second Memorandum Opinion and Order,* 15 FCC Rcd 12315 (2000) ("*MSS Second R&O*"); 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 13340 (2000) ("*18 GHz Relocation Proceeding*"), *aff'd sub nom., Teledesic LLC v. FCC,* 275 F.3d 75 (D.C. Cir. 2001); and Improving Public Safety Communications in the 800 MHz Band, Consolidating the 800 and 900 MHz Industrial/Land Transportation and Business Pool Channels, WT Docket 02-55, Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, ET Docket No. 00-258, Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for use by the Mobile Satellite Service, ET Docket No. 95-18, *Report and Order, Fourth Report and Order, Fourth Memorandum Opinion and Order, and Order*, 19 FCC Rcd 14969 (2004) ("*800 MHz R&O*"). The Commission has made modifications to the relocation procedures, when warranted, to address unique characteristics of the new entrants, incumbent operations and/or nature of the reallocated spectrum.

has found that the *Emerging Technologies* relocation policies best balance the interest of new licensees seeking early entry into their respective bands in order to deploy new technologies and services with the need to minimize disruption to incumbent operations used to provide service to customers during the transition.

12. BRS operators are providing four categories of service offerings today: 1) downstream analog video; 2) downstream digital video; 3) downstream digital data; and 4) downstream/upstream digital data.[36] Licensees and lessees have deployed or sought to deploy these services via three types of system configurations: high-power video stations, high-power fixed two-way systems, and low-power, cellularized two-way systems.[37] Traditionally, BRS licensees were authorized to operate within a 35-mile-radius protected service area (PSA) and winners of the 1996 MDS auction were authorized to serve BTAs consisting of aggregations of counties.[38] In the proceeding that restructured the BRS band at 2496-2690 MHz, the Commission adopted a geographic service area (GSA) licensing scheme for existing BRS incumbents.[39] Therefore, BRS relocation procedures must take into account the unique circumstances faced by the various incumbent operations and the new AWS licensees.

13. As an initial matter, it appears that there are active BRS channel 1 and/or 2/2A operations throughout the United States, with many licensees serving a relatively small customer base of several thousand or fewer subscribers each. We draw this conclusion from a number of sources of information, including BRS operations data submitted to the Commission in response to the *Order* portion of the *AWS Eighth R&O, Fifth Notice and Order*, as well as pleadings in the record of this proceeding including representations made by WCA, an industry group that represents many BRS licensees. In response to our request for information to assist in determining the scope of AWS entrants' relocation obligations,

[36] *See* Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 MHz Band, WT Docket No. 03-66, *Notice of Proposed Rule Making and Memorandum Opinion and Order,* 18 FCC Rcd 6722 at 6734, ¶ 23 (2003) ("*BRS NPRM*").

[37] *Id.*

[38] *BRS NPRM*, 18 FCC Rcd at 6734-35, ¶ 24.

[39] *See BRS R&O,* 19 FCC Rcd at 14189-94, ¶¶ 52-67. The GSA is based on the protected service area (PSA), generally the area within a 35 mile radius of the transmitter site, contained in the BRS licensee's site-based license. The PSA for a BRS BTA authorization holder is generally the area that is coterminous with the boundaries of the BTA (subject to the exclusion of the 35-mile PSAs of former MDS licensees). *Id.,* 19 FCC Rcd at 14190-91, ¶ 55.

69 BRS licensees provided information on 127 stations.[40] An examination of this data indicates that BRS operations can be found across the United States, in approximately 65 of the 176 U.S. Economic Areas.[41]

14. WCA has estimated that BRS channels 1 and/or 2 are used in 30-50 markets in the U.S., providing "tens of thousands" of subscribers in urban and rural areas with wireless broadband service, and in some cases, multichannel video programming service.[42] While Sprint Nextel appears to be the largest licensee with approximately 20,000 subscribers in 14 markets across the country,[43] many operators have described smaller operations in more discrete geographic areas. These include: C&W Enterprises, Inc., using BRS channel 1 and leased EBS channels to provide video and data services to approximately 1,500 subscribers in San Angelo, Texas; Evertek, Inc., using BRS channel 1 in Everly, Palmer, and Sioux City, Iowa to provide upstream broadband services to more than 1,000 subscribers; Northern Wireless Communications providing broadband services on BRS channels 1 and 2 to approximately 725 subscribers from hub sites located in Aberdeen and Redfield, South Dakota, and also providing multichannel video programming to approximately 950 subscribers; Polar Communications providing broadband services to more than 500 subscribers from its BRS channels 1 and 2 hub sites located in the Grand Forks, North Dakota BTA; Sioux Valley Wireless providing wireless broadband and multichannel video services to approximately 5,800 subscribers, 2,300 of which subscribe to wireless broadband, in rural areas in and around Sioux Valley, South Dakota, and surrounding communities in South Dakota, Iowa, Nebraska, and Minnesota; SpeedNet using BRS channels 1 and 2 for upstream Internet provision to approximately 4,000 customers in Alpena, Bad Axe, Mt. Pleasant, and Saginaw, Michigan; and W.A.T.C.H. TV providing over 200 channels of digital video and audio to over 12,000 subscribers in and around Lima, Ohio, with more than 5,000 subscribers using BRS channels 1 and 2 for upstream wireless broadband.[44]

15. As we discuss in detail below, we apply our *Emerging Technologies* relocation policies, with some modifications to accommodate the type of incumbent operations that are the subject of

[40] *See AWS Eighth R&O*, *Fifth Notice and Order*, 20 FCC Rcd 15866, 15890 at ¶ 53. *See also BRS Data Collection Public Notice*, DA 05-3126 (2005). We note that subscriber information was not part of this technical data filing. Although our license records indicate there are approximately 565 active BRS licenses in the 2150-2160/62 MHz band, licensees that did not have constructed and/or operational facilities were not required to file system information in response to the *Order*. A logical conclusion that can be drawn from the disparity between licensed records and the data generated in response to the *Order* is that many licensees do not have constructed and operational facilities. This is also generally consistent with WCA's estimates of the number and scope of operating BRS Channel 1 and 2 facilities. The *BRS Data Collection Public Notice* also noted that the failure to timely file the mandatory data regarding the construction status and/or operational parameters of a BRS system could risk prejudicing any right to seek relocation or reimbursement for such constructed and operational facilities. Based on the information that we have collected and the text of the *BRS Data Collection Public Notice*, we conclude that BRS licensees who did not file under the mandatory data collection requirements contained in the *BRS Data Collection Public Notice*, and who subsequently claim that they are entitled to relocation or reimbursement, have the burden to demonstrate to an AWS entrant that they meet the relocation eligibility requirements provided in this *Ninth R&O*. Furthermore, an AWS entrant that does not engage in relocation negotiations with such BRS licensees, absent this showing, is not subject to a claim that it is failing to act in good faith.

[41] Economic Areas (EAs) are geographical regions that are defined by the Regional Economic Analysis Division, Bureau of Economic Analysis, U.S. Department of Commerce February 1995. EAs, as modified by the Commission to encompass all the geographic areas in which the Commission licenses radio spectrum, are used as one means of defining geographic service area licenses. *See* 62 FR 9636 (March 3, 1997). *See* 47 C.F.R. § 27.6 Note 2 to Paragraph (b)(2)(i).

[42] WCA Comments at 2-3. For example, WCA reports that CommSpeed is serving 2,000 subscribers in rural areas of Northern Arizona.

[43] *See* Sprint Nextel Comments at 1.

[44] *See* C&W Comments at 1; Evertek Reply at 1; Polar/Northern Wireless Reply at 2; Sioux Valley Wireless Reply at 2; SpeedNet Comments at 1; W.A.T.C.H. TV Company Reply at 2.

relocation, to BRS relocations in the 2150-2160 MHz band. The primary features of the relocation policies for BRS are as follows:

- BRS incumbents will be relocated on a system-by-system basis based on potential interference to any BRS receive station hub or any end user receiver, depending on system design. A system is comprised of a base station with its associated end user units. Interference potential will be based on line of sight for co-channel operations.
- The relocation schedule will be determined by the AWS entrant's build-out of its network. AWS licensees may not begin operations prior to relocating BRS facilities with which potential interference exists.
- BRS incumbents are entitled to comparable facilities, *i.e.*, facilities that maintain throughput, reliability, and operating costs of existing facilities, including end user equipment used to receive BRS service. Because AWS and BRS licensees are potential competitors, BRS licensees do not have to disclose customer identities or locations to AWS entrants. Leased facilities may be the basis for determining comparable facilities, and licensees may include a lessee in negotiations.
- BRS licensees with primary status are eligible for relocation, unless their facilities were not constructed and in use as of the effective date of this *Ninth R&O*. BRS facilities that are primary are eligible for relocation; however, major modifications made to existing facilities and new BRS facilities added after the effective date of this *Ninth R&O* are secondary and, although licensees may make these modifications, these modifications are not eligible for relocation. Major modifications to existing facilities include modifications that increase the size or coverage of the service area or interference potential and that would also increase the throughput of the existing system (*e.g.* sector splits in the antenna system); however, BRS licensees will be allowed to make changes to existing facilities to fully utilize existing system throughput (*i.e.,* to add customers) even if such changes would increase the size or coverage of the service area or interference potential and these changes will not be treated as major modifications.
- There will be a mandatory three year negotiation period for each BRS incumbent which commences when the AWS entrant informs the BRS licensee in writing of its intent to negotiate (*i.e.,* "rolling" negotiations). The BRS licensee can suspend the running of the negotiation period for up to one year if the licensee cannot be relocated to comparable facilities at the end of the negotiation period. The AWS licensee can trigger involuntary relocation at the end of the negotiation period if the parties have not agreed on a relocation plan, and for one year after an involuntary relocation, BRS licensees will have a "right of return" to the old frequency band or otherwise to be relocated or reimbursed.
- BRS incumbents' primary status will sunset, and licensees will not be eligible for relocation, 15 years after the first AWS license is issued in the 2150-2160/62 MHz band.

1. Relocation Process

16. *Transition Plan.* In the *AWS Fifth Notice,* we proposed to require the AWS entrant to relocate BRS operations on a link-by-link basis, based on interference potential.[45] We also proposed to

[45] *See AWS Fifth Notice*, 20 FCC Rcd at 15874, ¶ 14. In the *AWS Fifth Notice,* we sought comment on what criteria (*e.g.,* a rule similar to 47 C.F.R. § 24.237 or the use of Telecommunications Industry Association Technical Services Bulletin 10-F (TIA TSB 10-F)) an AWS licensee should use to determine whether its proposed operations would cause interference to incumbent BRS operations in the 2150-2160 MHz band, such that the relocation of those systems would be necessary before AWS operations could begin. *Id.* at 15881-82, ¶¶ 28-29. The test we adopt for determining the interference potential of AWS operations to BRS systems is discussed in further detail below. *See infra* ¶¶ 46-54.

allow the AWS entrant to determine its own schedule for relocating incumbent BRS operations so long as it relocates incumbent BRS licensees before beginning operation in a particular geographic area and subject to any other build-out requirements that may be imposed by the Commission on the AWS entrant.[46] We further proposed to require that the AWS licensee relocate all incumbent BRS operations that would be affected by the new AWS operations, in order to provide BRS operators with comparable facilities.[47]

17. Most commenters argue that because BRS incumbent systems are generally point-to-multipoint operations, as opposed to the point-to-point incumbent operations that were relocated by PCS licensees, relocation of BRS licensees should occur on a system-by-system basis, based on interference potential, rather than link-by-link (*e.g.*, the path from a base station to one customer), as the Commission proposed.[48] According to Verizon and CTIA, a "system" includes a radio base station, all end user units served by that base station, and the wireless facilities that connect each end user unit served by that base station, but does not include multiple base stations in a geographic area that comprise an entire network.[49] Other commenters argue that all BRS operations within the BRS licensee's GSA (*e.g.*, multiple base stations or networks) should be relocated, not just the base stations where a line-of-sight analysis shows interference potential.[50]

18. Commenters also note that unlike past relocation scenarios, the new AWS entrant is likely to be a competitor to the BRS incumbent.[51] The BRS parties therefore argue that an incumbent should not have to disclose proprietary information (*e.g.*, subscriber identities and locations) to its competitor or provide access to those subscriber locations for the installation of customer premises equipment (CPE); should not have to rely on the AWS entrants' timetables to deploy service and should be allowed to decide when relocation will occur; should be able to control relocation of its facilities by having the sole responsibility for selecting equipment and deploying comparable facilities; and should be allowed to voluntarily self relocate subject to reimbursement from new AWS licensees.[52] WCA and BellSouth argue that self relocation was permitted in the 1.9 GHz band microwave relocation to "accelerate the relocation process by promoting system-wide relocation [and] give microwave incumbents

[46] *See AWS Fifth Notice*, 20 FCC Rcd at 15874, ¶ 14.

[47] *See AWS Fifth Notice*, 20 FCC Rcd at 15874-75, ¶ 15. *See also* Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, ET Docket Nos. 00-258 and 95-18, *Sixth Report and Order, Third Memorandum Opinion and Order, and Fifth Memorandum Opinion and Order*, 19 FCC Rcd 20720 at 20753, ¶ 71 (2004) ("*AWS Sixth R&O*") (requiring AWS licensees in the 1995-2000 MHz and 2020-2025 MHz bands to relocate incumbent Broadcast Auxiliary Service (BAS) operations in all affected BAS markets, including those markets where the AWS licensee provides partial, minimal, or no service).

[48] Verizon Comments at 4; CTIA Comments at 3-5; Sprint Nextel Comments at 26-28; WCA Comments at 33; Radiofone Reply at 2; BellSouth Reply at 7.

[49] Verizon Comments at 4; CTIA Comments at 3-5 & note 15.

[50] *See, e.g.,* C&W Comments at 3; SpeedNet Comments at 3; SpeedNet Reply at 4; Polar/Northern Wireless Reply at 8-9.

[51] *See, e.g.,* BellSouth Comments at 5-6; C&W Comments at 3-4; T-Mobile Comments at 3; Sprint Nextel Comments at 24-26; WCA Comments at 30; Sioux Valley Wireless Reply at 6-7.

[52] *See, e.g.,* SpeedNet Comments at 3-4; BellSouth Comments at 5; WCA Comments at 42-44; BellSouth Reply at 4; Sprint Nextel Reply at 6. Commenters generally refer to the self relocation process used for PCS entry into the 1.9 GHz band, noting in particular, the incumbent's ability to decide when to relocate. Unlike that proceeding, where the incumbent's relocation expenses were subject to a hard monetary cap established by rule, commenters here propose that the incumbent would negotiate reimbursement for what it deems to be comparable facilities.

the option of avoiding time-consuming negotiations, allowing for faster clearing" of the band[53] and that BRS licensees/lessees should similarly be permitted to self relocate subject to reimbursement from AWS licensees prior to the conclusion of the mandatory negotiation period, using the comparable facilities standard for involuntary relocations.[54] WCA further argues that self relocation reduces the disruption to customers because, for example, operators who have replacement spectrum available may choose to start migration to the new band whenever a routine service call is made to the home, without waiting for the completion of the mandatory negotiation or involuntary relocation periods.[55] CTIA and T-Mobile contend that, if self relocation is permitted, AWS licensees must be afforded protections similar to those provided in the PCS relocation process. These protections include limitations on the incumbent's reimbursable expenses, such as a cap on reimbursement costs and the requirement to obtain a third party estimate of relocation costs.[56] Verizon agrees with the Commission's proposal that an AWS licensee should have flexibility to determine its relocation schedule; otherwise, Verizon claims, there would be significant costs that could impede the introduction of AWS in the 2150-2160/62 MHz band.[57]

19. We anticipate that an AWS licensee will likely use a terrestrial network that is comprised of several discrete geographic areas served by multiple base stations.[58] Unlike satellite systems, for example, whose signals can blanket the whole country simultaneously, the terrestrial nature of an AWS licensee's service allows for the gradual relocation of incumbents during a geographically-based build-out period. We recognize that this build-out period may take time because of the large service areas to be built out for new AWS networks, but expect that the AWS licensees and the incumbent BRS licensees will work cooperatively to ensure a smooth transition for incumbent operations.[59] Upon review of the concerns raised in the record regarding our initial proposal for a link-by-link approach for relocation, we are convinced that adopting a "system-by-system" basis for relocation, based on potential interference to BRS, will better accommodate incumbent BRS operations.[60] If an analysis shows that a BRS incumbent's "system" needs to be relocated, we will require that the base station and all end user units served by that base station be relocated to comparable facilities.[61] The relocation schedule and criteria to determine interference potential are discussed in detail below.[62]

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[53] *See* BellSouth Comments at 5, citing *Microwave Cost Sharing Second R&O*, 12 FCC Rcd 2705, 2717. *See also* WCA Comments at 42-44.

[54] WCA proposed a plan for self relocation that was supported by some BRS parties. *See* WCA Comments at 14-16, 22-27, & 42-44; SpeedNet Reply at 2-3; Polar/Northern Wireless Reply at 7-8; Evertek Reply at 8-9; Radiofone Reply at 3; C&W Reply at 2-3; W.A.T.C.H. TV Reply at 7-8.

[55] WCA Comments at 43-44.

[56] T-Mobile Reply at 8-9; CTIA Reply at 5-6.

[57] Verizon Comments at 4.

[58] Many parties that have filed comments in this docket have proposed such systems, and, in many cases, operate similarly configured systems in the cellular and PCS bands that could be readily upgraded to incorporate new AWS spectrum.

[59] *See AWS-1 Service Rules Order*, 18 FCC Rcd 25162; *Order on Reconsideration*, 20 FCC Rcd 14058.

[60] We also modified the link-by-link approach for AWS relocations in the 1995-2000 MHz and 2020-2025 MHz bands in order to accommodate the integrated nature of the BAS incumbents. *See AWS Sixth R&O,* 19 FCC Rcd at 20752-53. However, we note that the unique circumstances that led to the requirement to clear the entire 1990-2025 MHz band of BAS incumbents, *i.e.,* the ubiquitous nature of the MSS and the assignment of five megahertz of spectrum in the 1.9 GHz band to Nextel as part of the 800 MHz band reconfiguration process designed to alleviate interference to public safety operations in the 800 MHz band, are not present here.

[61] Whether a new entrant is required to relocate multiple systems (*i.e.*, multiple base stations or networks) will depend on the interference analysis.

[62] *See infra* ¶ 20 (relocation schedule) and ¶¶ 46-54 (interference criteria).

20. For the reasons discussed below, we reject proposals that would allow BRS incumbents to voluntarily self relocate, *i.e.*, to unilaterally determine when relocation would occur and to require AWS entrants to reimburse BRS incumbents based on a cost estimate for comparable facilities that were selected and deployed at the discretion of the incumbent without the involvement of and negotiation with the AWS licensee.[63] In our relocation policies, we want to maintain a balance between the needs of new entrants and incumbent operations. In this case, new entrants and incumbents will likely be offering competitive services. Our decision to base BRS relocation on the AWS entry timetable and potential interference to BRS incumbents provides a bright line that should avoid disputes between prospective competitors, *e.g.*, that market entry is being unfairly delayed or that entry costs are imposed prematurely which could delay AWS build-out of service. We conclude that the diversity of incumbent BRS facilities and services makes it difficult to allow self relocation based on cost estimates and a cost cap, as some commenters suggest. BRS incumbents offer a wide variety of services and employ a wide variety of equipment, making it difficult to implement a self relocation scheme as was permitted when PCS relocated FS incumbents. In the latter case, FS incumbents were providing point-to-point service where system configuration and relocation costs were well understood and similar enough in each situation so as to make rational the types of generalizations that are necessary to set caps. Also, to the extent that BRS proponents seek self relocation because the transition of the 2.5 GHz band may delay relocation to that band, we are providing relief by allowing BRS incumbents to continue to add customers[64] and to suspend for up to one year the negotiation period.[65] As a practical matter, we expect a BRS incumbent to take an active role in the actual relocation of its facilities, including selecting and deploying comparable facilities, but we find that relocation should result from AWS-BRS negotiations or the involuntary relocation process discussed below. However, we recognize the legitimate concerns raised by BRS incumbents regarding the disclosure of their proprietary customer information to potential AWS competitors and we will not require that AWS entrants be permitted to approach the incumbents' customers directly for relocation purposes, whether relocation occurs as a result of a negotiated agreement or via involuntary relocation. To balance AWS interests with the need to minimize disruption to an incumbent's customers, we will not allow the AWS entrant to begin operations in a particular geographic area until the affected BRS incumbent is relocated (and subject to any other build-out requirements that may be imposed by the Commission on the AWS entrant).

21. *Comparable Facilities.* Under the *Emerging Technologies* policy, the Commission allows new entrants to provide incumbents with comparable facilities using any acceptable technology.[66] Incumbents must be provided with replacement facilities that allow them to maintain the same service in terms of: (1) throughput – the amount of information transferred within the system in a given amount of time; (2) reliability – the degree to which information is transferred accurately and dependably within the system; and (3) operating costs – the cost to operate and maintain the system.[67] Thus, the comparable facilities requirement does not guarantee incumbents superior systems at the expense of new entrants.[68]

[63] In this context, "self relocation" is where the BRS incumbent, not the AWS entrant, has the sole discretion and control with respect to the relocation schedule, costs, and determination of comparable facilities, *i.e.,* "self relocation" refers to a unilateral, non-negotiated relocation by the BRS licensee. We note that "self relocation" may be defined differently in other proceedings. *See, e.g., BRS R&O*, 19 FCC Rcd 14165.

[64] *See infra* ¶ 33.

[65] *See infra* ¶ 39.

[66] *See Emerging Technologies Third R&O*, 8 FCC Rcd 6589 at 6591 & 6603, ¶¶ 5 & 36.

[67] *See Microwave Cost Sharing First Report and Order and Further Notice of Proposed Rule Making,* 11 FCC Rcd 8825 at ¶¶ 27-34 (2000) ("*Microwave Cost Sharing First R&O and FNPRM*"). *See also* 47 C.F.R. §§§ 101.73, 101.75, 101.91.

[68] Consistent with this purpose, the Commission's relocation procedures provide that during involuntary relocation, new entrants would only be required to provide incumbents with enough throughput to satisfy their system use at the time of relocation, not to match the overall capacity of the system. *See* 47 C.F.R. § 101.75.

We note that our relocation policies do not dictate that systems be relocated to spectrum-based facilities or even to the same amount of spectrum as they currently use, only that comparable facilities be provided.[69] Comparable facilities can be provided by upgrading equipment to digital technology and making use of efficient modulation and coding techniques that use less spectrum to provide the same communications capabilities. In the *AWS Fifth Notice*, the Commission proposed that if relocation were deemed necessary, BRS incumbents with primary status would be entitled to comparable facilities, as defined in the *Emerging Technologies* proceeding and discussed above, and sought comment on how to apply the comparable facilities requirement to unique situations faced by BRS licensees.[70] For example, we sought comment on whether replacement of CPE in use at the time of relocation (*e.g.,* customer equipment that is used and will continue to be used in the provision of two-way broadband operations) should be part of the comparable facilities requirement.

22. The majority of commenters support implementation of a comparable facilities requirement,[71] although some commenters request that additional criteria be added to the Commission's definition, such as costs to install new CPE, not merely the cost of the equipment, and internal costs of the incumbent.[72] In addition, some commenters argue that the Commission should use the expanded comparable facilities definition it has used when dealing with point-to-multipoint incumbent operations in other contexts, such as the *800 MHz R&O* (where the factors were: equivalent channel capacity; equivalent signal capability, baud rate, and access time; coextensive geographic coverage; and operating costs) and the *Upper 200 MHz Specialized Mobile Radio Second R&O* (where the factors were: system; capacity; quality of service; and operating costs).[73] Other commenters claim that comparable facilities

[69] For example, in ET Docket No. 95-18, the Commission adopted a policy in which new MSS entrants would relocate incumbent BAS systems operating in the 1990-2110 MHz band to the 2025-2110 MHz band – a reduction of 35 megahertz of spectrum. The Commission determined that BAS could achieve comparable facilities in the reduced spectrum because the relocation would entail an upgrade of equipment from analog to digital. *See MSS Second R&O*, 15 FCC Rcd 12315; *MSS Third R&O*, 18 FCC Rcd 23638.

[70] *See AWS Fifth Notice*, 20 FCC Rcd at 15875-76, ¶¶ 16-18. *See also AWS Third NPRM,* 18 FCC Rcd at 2256, ¶ 71. For example, we recognized that the incumbent BRS licensee may change the type of services it offers as it transitions to the new BRS band plan (*e.g.*, from one-way to two-way service or from fixed to mobile service), and we sought comment on how the comparable facilities policy would be satisfied in such a situation. We also sought comment on how the relocation obligation of comparable facilities should be applied to post-1992 licensees operating on a combination of BRS channels 1 and 2/2A (*e.g.,* integrated for downstream two-way broadband operations), considering these channels will likely transition to new channels in the restructured band at different times. *Id.* at ¶ 18.

[71] *See, e.g.,* Verizon Comments at 4; BellSouth Comments at 4

[72] *See, e.g.,* SpeedNet Comments at 4; C&W Comments at 4; SpeedNet Reply at 4; C&W Reply at 3-4. Examples of internal costs cited by the parties include: labor and transportation, the time expended by company employees to inform customers and arrange customer appointments, and the time of company personnel in planning and organizing the transition. *See id.*

[73] *See* Sprint Nextel Comments at 10-13; WCA Comments at 14-16, citing Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band, PR Docket No. 93-144, *Second Report and Order*, 12 FCC Rcd 19079 at 19112-13, ¶ 92 (1997) ("*Upper 200 MHz Specialized Mobile Radio Second R&O*") and the *800 MHz R&O,* 19 FCC Rcd at 15076-77, ¶ 202. We note that all of the factors, except for operating costs, listed in the *800 MHz R&O, i.e.,* equivalent channel capacity; equivalent signal capability, baud rate, and access time; and coextensive geographic coverage, are contained in the "capacity" factor listed in the *Upper 200 MHz Specialized Mobile Radio Second R&O. See Upper 200 MHz Specialized Mobile Radio Second R&O*, 12 FCC Rcd at 19112-13, ¶ 92.

requires only one acceptable technology solution – *i.e.*, a wireless, not wired solution.[74] Further, commenters support our proposal that only stations with primary status would be entitled to relocation.[75]

23. We continue to believe that the *Emerging Technologies* policy of comparable facilities is the best approach to minimize disruption to existing services and to minimize the economic impact on licensees of those services. Accordingly, we will require that AWS licensees provide BRS incumbents with replacement facilities that allow them to maintain the same service in terms of: (1) throughput – the amount of information transferred within the system in a given amount of time; (2) reliability – the degree to which information is transferred accurately and dependably within the system; and (3) operating costs – the cost to operate and maintain the system. However, we agree with commenters that an additional factor for the comparable facilities definition is necessary to deal with the point-to-multipoint operations of BRS licensees that provide service to customers. Thus, in order to minimize disruption to the incumbent's customers, we find that the replacement of CPE (*i.e.,* end user equipment) in use at the time of relocation and that is necessary for the provision of BRS service should be part of the comparable facilities requirement.[76] Further, consistent with our *Emerging Technologies* policy, during involuntary relocation, new AWS entrants will only be required to provide BRS incumbents with enough throughput to satisfy their system use at the time of relocation, not to match the overall capacity of the system.[77] Finally, we address the application of our comparable facilities requirement to post-1992 licensees operating on a combination of BRS channels 1 and 2/2A (*e.g.,* integrated for downstream two-way broadband operations), whose operations are likely to transition to new channels in the restructured band at different times. In order to accommodate these integrated operations with the least disruption to customers, we will require the relocation of operations on both BRS channels 1 and 2/2A where the BRS licensee is using the same facility for both channels in order to provide service to customers.[78]

24. However, for the reasons discussed below, we decline to further expand the comparable facilities definition as the parties request (*e.g.,* requiring only a wireless solution; using the *800 MHz proceeding* definition; and including internal administrative costs of the incumbent). We reject parties' suggestions that comparable facilities requires only a wireless solution. Given advances in technology, *e.g.,* changing from analog to digital modulation and the flexibility provided by our existing relocation procedures to make incumbents whole, we believe that these differences should be taken into account when providing comparable facilities. In the *800 MHz proceeding,* incumbents in the 800 MHz band were being relocated within the same band as part of an overall band reconfiguration process designed to resolve the interference concerns of public safety licensees in the band. Therefore, a comparable facilities definition based on equivalent capacity was the better approach in the *800 MHz proceeding,* because, for example, the services, equipment, and propagation characteristics were not likely to change significantly in the newly reconfigured band. Further, the level of detail in the comparable facilities definition in the *800 MHz proceeding* was necessary to ensure that the costs for relocation and reconfiguration were easy to compute and verify since these expenses were to be used to calculate the credit due to the U.S. Treasury at the end of the 800 MHz transition. In the instant case, BRS incumbents are to be relocated to

[74] *See, e.g.,* CTIA Comments at 9; Sprint Nextel Comments at 34-37; SpeedNet Reply at 5; C&W Reply at 6-7.

[75] *See* CTIA Comments at 11; Verizon Comments at 4-5.

[76] We note that including end user equipment in the definition of comparable facilities is similar to our use of the "system" factor in the *Upper 200 MHz Specialized Mobile Radio Second R&O.* In that proceeding, we stated that "the term 'system' should be defined functionally from the end user's point of view, *i.e.*, a system is comprised of base station facilities that operate on an integrated basis to provide service to a common end user, and all mobile units associated with those base stations." In this case, the term "system" includes the radio base station and all end user units served by that base station. *See supra* ¶ 19.

[77] *See infra* ¶ 40.

[78] Although it may be possible to relocate BRS operations on channels 1 and 2/2A separately, this could require the installation and operation of more than one device at either the base station or the end user's premises.

a new band where, for example, the equipment and propagation characteristics are different. In addition, BRS incumbents, while providing similar broadband services, use various technologies (*e.g.*, frequency division duplexing (FDD) or time division duplexing (TDD)) to deploy their services.[79] We therefore believe that a more flexible definition of comparable facilities is justified in this case. Accordingly, we find that the factors we have identified as most important for determining comparability (*i.e.,* throughput, reliability, operating costs, and now end user equipment) provide the degree of flexibility that will better serve the parties during negotiations. Finally, consistent with our *Emerging Technologies* policies, we will not require that new AWS licensees reimburse BRS incumbents for their internal costs for relocation because these costs are difficult to determine and verify.[80]

25. We further note that under our relocation policies only stations with primary status are entitled to relocation. Because secondary operations, by definition, cannot cause harmful interference to primary operations nor claim protection from harmful interference from primary operations at frequencies already assigned or assigned at a later date,[81] new entrants are not required to relocate secondary operations. As stated above, BRS stations licensed after 1992 to use the 2160-2162 MHz band operate on a secondary basis. Thus, in some cases, a portion of BRS channel 2 has secondary status, and this portion would not be entitled to relocation under existing *Emerging Technologies* policies. BRS stations licensed after 1992 to use the remaining portion of BRS channel 2 (2156-2160 MHz) operate on a primary basis and thus, would be entitled to relocation. Where a station is licensed to operate BRS channel 2 on both a primary (at 2156-2160 MHz) and secondary (at 2160-2162 MHz) basis, we expect the parties will work together in negotiating appropriate compensation for the costs to relocate four megahertz of a six megahertz block of spectrum. We note that stations licensed prior to 1992 for BRS channel 2 (2156-2162 MHz) operate on a primary basis over the entire channel and thus, would be entitled to relocation over the entire channel. We therefore adopt our relocation policies regarding stations with primary and secondary status for the BRS.

26. *Leasing.* Some BRS licensees of channel(s) 1 and/or 2/2A currently lease their spectrum capacity to other commercial operators,[82] and the Commission has determined that future leasing of BRS spectrum will be allowed under the Secondary Markets policy.[83] Because leasing is prevalent in the BRS bands, the application of our "comparable facilities" policy must also account for these arrangements. We recognize that leasing arrangements vary – some BRS licensees may continue to lease their spectrum to third parties when they relocate to the 2.5 GHz band, but other BRS licensees may discontinue leasing arrangements prior to relocation. In all cases, the BRS licensee retains *de jure* control of the license and is the party entitled to negotiate for "comparable facilities" in the relocation band. In the *AWS Fifth Notice,* we sought comment on proposals related to the leasing of BRS spectrum. In particular, we proposed to allow incumbent BRS licensees to rely on the lessee's facilities in negotiating comparable

[79] *See, e.g.,* SpeedNet Comments at 5-6.

[80] *Microwave Cost Sharing First R&O,* 11 FCC Rcd 8825 at ¶ 42.

[81] *See* 47 C.F.R. § 2.105(c).

[82] *See, e.g., Ex Parte* filing of Private Networks, Inc. (Nov. 6, 2003) (noting that some grandfathered BRS licensees have long-term leases with commercial operators for use of their spectrum).

[83] *See BRS R&O,* 19 FCC Rcd at 14232-34, ¶¶ 177-81. Under the Secondary Markets policy, licensees may engage in either "spectrum manager leasing" whereby they retain *de facto* control of the spectrum and *de jure* control of the license or "*de facto* transfer leasing" whereby they transfer *de facto* control of the spectrum to a lessee. *See* Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, WT Docket No. 00-230, *Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 20604 (2003) ("*Secondary Markets Order and Notice*"), *Erratum* 18 FCC Rcd 24817 (2003). This decision also affects EBS (formerly Instructional Television Fixed Service) licensees in the 2500-2690 MHz band. Because both EBS and BRS are channelized in this band, the Commission's comprehensive restructuring of BRS also encompassed EBS.

facilities and to include lessees in negotiations with the AWS entrant, but that the lessee would not be entitled to a separate right of recovery.[84]

27. While commenters generally support our leasing proposals that would allow licensees to include lessees in negotiations and to rely on the lessee's facilities in negotiations for comparable facilities, but not allow double recovery for licensees and lessees,[85] some commenters request that we provide lessees with additional standing independent of the licensee or lessor[86] or that we require the lessee to participate in negotiations.[87] We conclude that the approach we proposed in the *AWS Fifth Notice* is consistent with the purpose of the "comparable facilities" policy to provide new facilities in the relocation band so that the public continues to receive service, and we disagree with commenters who request additional protections for or requirements on the lessee. Disputes with respect to private leasing agreements between the licensee and lessee are best addressed using applicable contractual remedies outside the Commission's purview. As noted above, while we recognize the benefit of including the lessee in negotiations for comparable facilities, we do not believe a requirement for participation is necessary. Accordingly, we find that, in cases where the BRS licensees continue to lease their spectrum to third parties when they relocate to the 2.5 GHz band, the licensee may include the lessee in negotiations but lessees would not have a separate right of recovery – *i.e.,* the new entrant would not have to reimburse both the licensee and lessee for "comparable facilities."[88] We also adopt our proposal to allow incumbent BRS licensees to rely on the throughput, reliability, and operating costs of facilities operated by a lessee in negotiating "comparable facilities." BRS licensees may also use these same factors for determinations of "comparable facilities" during involuntary relocation, except that the BRS licensee may only rely on the facilities that are "in use" pursuant to 47 C.F.R. § 101.75 by the lessee at the time of relocation.[89] Finally, in cases where the BRS licensee discontinues leasing arrangements prior to relocation, the lessee is not entitled to recover lost investment from the new AWS entrant.[90]

28. *Licensee Eligibility*. In the *AWS Fifth Notice*, we proposed that a primary BRS licensee whose license, prior to relocation, is renewed or assigned, or whose control of the license is transferred, will continue to be eligible for relocation.[91] We also proposed that no new licenses would be issued in the 2150-2160/62 MHz band if a grandfathered BRS license is cancelled or forfeited and does not automatically revert to the BRS licensee that holds the corresponding BTA license.[92]

29. Our review of the record shows that commenters support our proposals on determining licensee eligibility for relocation.[93] Accordingly, and consistent with our findings in earlier proceedings, we now adopt our proposals to apply the relocation policies discussed herein to BRS incumbent primary

[84] *See AWS Fifth Notice*, 20 FCC Rcd at 15877-78, ¶ 20.

[85] CTIA Comments at 10; WCA Comments at 45; Sprint Nextel Reply at 13-14.

[86] Radiofone Reply at 3.

[87] WCA Comments at 16 & 44-45; Sprint Nextel Reply at 13-14; SpeedNet Reply at 6; C&W Reply at 4-5; WCA Reply at 22.

[88] A private agreement between the licensee and lessee should address how new facilities or payment for "comparable facilities" will be shared between the parties.

[89] *See* 47 C.F.R. § 101.75. *See also infra* ¶ 40.

[90] This issue should be addressed in a private agreement between the licensee and lessee.

[91] *AWS Fifth Notice*, 20 FCC Rcd at 15878, ¶ 21.

[92] *Id.*

[93] *See, e.g.,* CTIA Comments at 11; C&W Comments at 3; Sprint Nextel Comments at 45-46; CTIA Reply at 5; WCA Reply at 22-23.

licensees who seek comparable facilities at the time of relocation.[94] Any incumbent licensee whose license is renewed before relocation would have the right to relocation. An assignment or transfer of control would not disqualify a BRS incumbent in the 2150-2160 MHz band from relocation eligibility unless, as a result of the assignment or transfer of control, the facility is rendered more expensive to relocate.[95] In addition, if a grandfathered BRS license (*i.e.,* authorized facilities operating with a 35-mile-radius PSA) is cancelled or forfeited, and the right to operate in that area has not automatically reverted to the BRS licensee that holds the corresponding BTA license, no new licenses would be issued for BTA service in the 2150-2160/62 MHz band.[96] Finally, in the *AWS Fifth Notice,* we did not propose, nor do we suggest here, that BRS licensees would be entitled to relocation compensation as a consequence of reallocating BRS spectrum for other services. We note, in particular, that the *Emerging Technologies* relocation policies were intended to prevent disruption of existing services and minimize the economic impact on licensees of those services. Thus, where authorized BRS licensees have not constructed facilities and are not operational, there is no need to prevent disruption to existing services.[97] We therefore conclude that BRS licensees whose facilities have not been constructed and are in use per Section 101.75 of the Commission's rules as of the effective date of this *Report and Order* are not eligible for relocation.

30. Under the *Emerging Technologies* policy, the Commission recognizes two divergent objectives when considering the types of modifications and expansions existing licensees could make to their existing, constructed facilities without affecting their status with respect to emerging technology licensees – on one hand, existing licensees must be allowed a certain amount of flexibility to operate without devaluing the usefulness of their facilities; on the other hand, the new entrants must be provided with a stable environment in which to plan and implement new services.[98] The Commission has decided that the best way to balance these divergent objectives is to establish procedures whereby existing licensees who choose to modify or expand their facilities, after a particular date set by the Commission, would do so on a secondary basis to new licensees.[99] In the *AWS Fifth Notice*, we proposed to adopt criteria for BRS licensees that would be the basis for determining what qualifies as a "major modification," *i.e.*, a modification that is relegated to secondary status for relocation purposes.[100] Adopting major modification criteria for the purposes of relocation is necessary because BRS licensees are now licensed on a geographic area basis, and thus are allowed to place transmitters anywhere within their defined service area without prior authorization so long as the licensee's operations comply with the applicable service rules, do not affect radio-frequency zones, or require environmental review or international coordination.[101] Specifically, we proposed to adopt criteria that, for example, would classify additions of new transmit sites or base stations and changes to existing facilities that would increase the

[94] *See, e.g., MSS Second R&O,* 15 FCC Rcd at 12361-62, ¶ 134; *MSS Third R&O,* 18 FCC Rcd at 23675-76, ¶¶ 79-80; *18 GHz Relocation Proceeding*, 15 FCC Rcd at 13466, ¶ 75.

[95] In this case, the incumbent would not be entitled to the increased costs to relocate the facility that may result from the transfer or assignment.

[96] *See* 47 C.F.R. § 27.1209(c); *BRS R&O* at 14189-90, ¶ 54. Reversion upon cancellation or forfeiture of an existing license to the licensee that holds the corresponding BTA license is consistent with the approach the Commission has taken in other wireless services. *See, e.g.,* Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz bands, ET Docket No. 95-183, *Report and Order and Second Notice of Proposed Rulemaking,* 12 FCC Rcd 18600, 18637-38 ¶ 79 (1997).

[97] *See AWS Third R&O,* 18 FCC Rcd 2223 at n.104.

[98] *See Emerging Technologies First R&O and Third NPRM,* 7 FCC Rcd 6886 at ¶¶ 30-31.

[99] *See AWS Fifth Notice*, 20 FCC Rcd at 15878-79, ¶ 22. *See also, e.g.,* 47 C.F.R. §§ 101.81 and 101.83.

[100] *See AWS Fifth Notice,* 20 FCC Rcd at 15879, ¶ 23.

[101] *See BRS R&O,* 19 FCC Rcd at 14189-90, ¶ 54.

size or coverage of the service area or interference potential as types of modifications that are major, and thus not eligible for relocation.

31. CTIA and Verizon support our proposal to use the effective date of this *Report and Order* as a cut-off date after which major modifications to the BRS incumbent's facilities would not be eligible for relocation.[102] BRS commenters, on the other hand, argue that the cut-off date should be the date, or, alternately, ninety days after the date, the AWS entrant provides written notice to the BRS licensee of its desire to commence negotiations.[103] Some parties contend that the incumbent should be allowed to continue to add subscribers and modify its facilities (such as sector splits in the antenna system to increase frequency reuse and capacity) until relocation is completed.[104] Sprint Nextel argues that requiring a BRS licensee to discontinue its broadband service before new spectrum becomes available or prohibiting it from adding new customers to existing BRS service areas would have a material adverse effect on the national availability of broadband in the United States, and would be inconsistent with Section 706 of the Telecommunications Act, which seeks to promote the availability of advanced telecommunications services.[105] Sprint Nextel also argues that the Commission's proposed cut-offs for new BRS deployments follows the logic for point-to-point systems and not for point-to-multipoint systems, where subscribers are affected. It claims that in the 1.9 GHz band context, making operations secondary did not devalue the usefulness of the existing operations and did not unduly constrain operators that wanted to expand their networks, but rather excluded just one of the many facility-based deployments that operators could choose from.[106] WCA contends that a ban on system modifications or expansions comprises the rights obtained at auction of BRS BTA license holders.[107] With respect to the criteria for major modifications, CTIA, Sprint Nextel, and WCA suggest that: (1) BRS licensees should not be permitted to add or be compensated for the relocation of new hub station receivers (but can add customers to already deployed hub station receivers); (2) modifications should be permitted where replacement is required as a result of a natural disaster or some other event beyond the control of the BRS licensee; and (3) BRS licensees who are not actually operating systems as of the effective date of the *Report and Order* in this proceeding should be precluded from deploying new services in the 2150-2160/62 MHz band after that date.[108]

32. We disagree with commenters who suggest delaying the cut-off for relocation eligibility either until, or ninety days after, the date the AWS entrant provides written notice of its intent to commence negotiations with the BRS incumbent because as we noted above, new entrants must be provided with a stable environment in which to plan and implement new services. Consistent with our *Emerging Technologies* relocation policy and in order to provide some certainty to new AWS licensees on the scope of their relocation obligation, we generally adopt the proposals for major modifications

[102] *See* CTIA Comments at 12; Verizon Comments at 5-6. Verizon contends that secondary status alone is not sufficient and that the Commission should institute a freeze on the construction of new facilities and any other major modification to BRS systems. BRS parties disagreed and requested that the Commission reject Verizon's freeze proposal. *See* Polar/Northern Wireless Reply at 5; Evertek Reply at 2-3; WCA Reply at 4-7. We reject Verizon's freeze proposal for the reasons discussed below.

[103] *See, e.g.,* C&W Comments at 2-3; SpeedNet Comments at 2; Polar/Northern Wireless Reply at 5; Sioux Valley Wireless Reply at 708; Evertek Reply at 4-5; W.A.T.C.H. TV Reply at 3-5; Sprint Nextel Reply at 5.

[104] *Id.*

[105] Sprint Nextel Comments at 6-7.

[106] Sprint Nextel Comments at 21-23.

[107] WCA Comments at 40-41. We note that the Commission is not precluded from regulating spectrum licenses obtained at auction. Section 309(j)(6)(C) of the Communications Act provides that "[n]othing in this subsection or in the use of competitive bidding shall diminish the authority of the Commission under other provisions of this Act to regulate or reclaim spectrum licenses." *See* 47 U.S.C. § 309(j)(6)(C).

[108] CTIA Comments at 12; Sprint Nextel Comments at 23-24; WCA Comments at 48.

described in the *AWS Fifth Notice.*[109] Specifically, we find that major modifications to BRS systems that are in use, as discussed in the next paragraph, made by BRS licensees in the 2150-2160 MHz band after the effective date of this *Report and Order* will not be eligible for relocation. Further, major modifications and extensions to BRS systems that are in use, as discussed below, will be authorized on a secondary basis to AWS systems in the 2150-2160 MHz band after the effective date of this *Report and Order*.[110] In addition, BRS facilities newly authorized in the 2150-2160 MHz band after the effective date of this *Report and Order* would not be eligible for relocation.[111]

33. Based on our review of the record, and consistent with *Emerging Technologies* principles, we classify the following as types of modifications that are major, and thus not eligible for relocation: (1) additions of new transmit sites or base stations made after the effective date of this *Report and Order*; and (2) changes to existing facilities made after the effective date of this *Report and Order* that would increase the size or coverage of the service area or interference potential and that would also increase the throughput of an existing system (*e.g.*, sector splits in the antenna system). However, we will allow BRS incumbents to make changes to already deployed facilities to fully utilize existing system throughput, *i.e.*, to add customers, even if such changes would increase the size or coverage of the service area or interference potential, and not treat these changes as major modifications.[112] Because relocation of incumbent facilities depends on the availability of spectrum in the 2.5 GHz band, existing licensees must have some flexibility to continue to provide service in their communities, including adding new customers, until relocation occurs. On the other hand, new entrants should not be required to reimburse a potential competitor for the costs of its system expansion. We believe that this approach balances the needs of incumbents to continue to provide service with the needs of new entrants to have some certainty about relocation expenses.[113] All other modifications would be classified as major and their operations authorized on a secondary basis and thus not eligible for relocation.[114] We note that, where a BRS

[109] *See AWS Fifth Notice*, 20 FCC Rcd at 15878-79, ¶¶ 22-23.

[110] As noted above, after January 16, 1992, licensees in the 2160-2162 MHz band were already authorized on a secondary basis.

[111] It is unlikely that new BRS facilities will be authorized in this band since the Commission assigned this spectrum via a competitive bidding process in 1996. *See supra* note 12. Therefore, we do not believe a freeze, as proposed by Verizon, is necessary.

[112] For example, to fully utilize existing system throughput, the licensee may increase the height of an antenna or increase power at a base station in order to add additional customers up to its system capacity which, consequently, could increase the size or coverage of the service area or interference potential with AWS.

[113] In its comments, CTIA proposes that each BRS incumbent submit, pre-auction, an estimate of what it will cost to relocate the incumbent's systems, and further proposes that an AWS licensee relocating the incumbent be obligated to spend no more than 110 percent of this estimate. *See* CTIA Comments at 9-10; *see also* T-Mobile Comments at 3; T-Mobile Reply at 2-3 (claiming that a pre-auction estimate gives a BRS incumbent greater assurance that it will receive appropriate compensation). Several BRS commenters disagree with CTIA's proposals for a pre-auction cost estimate and 110 percent cap because relocations costs (*e.g.,* subscriber, labor, and equipment costs) are too difficult to predict at such an early stage in the process, particularly since replacement equipment is not yet available. *See, e.g.,* Sioux Valley Wireless Reply at 5; Radiofone Reply at 4-5; Evertek Reply at 6-7; W.A.T.C.H. TV Reply at 5; WCA Reply at 10-13. We decline to require a pre-auction estimate of relocation costs or a 110 percent cap on this estimate because, as discussed above, we are allowing BRS incumbents to add customers to fully utilize existing throughput until relocation occurs. Thus, requiring an estimate on relocation costs at this time would be premature and difficult to determine.

[114] We note that there may be circumstances where modifications may be necessary (*e.g.,* as a result of a natural disaster or some other emergency event beyond the BRS licensee's control) or where a BRS licensee that is operating in the 2150-2160/62 MHz band prior to effective date of this *Report and Order* "must file a new application pursuant to Section 27.1209 for a new or modified facility because of proximity to a quiet zone, environmental issues, etc." CTIA and WCA contend that these types of modifications should not disqualify the facility's eligibility for relocation. *See, e.g.,* CTIA Comments at 12, n.36; WCA Comments at 43, n.86. We will (continued….)

licensee who is otherwise eligible for relocation has modified its existing facilities in a manner that would be classified as "major" for purposes of relocation, that BRS licensee continues to maintain primary status (*e.g.*, unless it is classified as secondary for other reasons[115] or until the sunset date[116]); the major modifications themselves are considered secondary and not eligible for relocation. Thus, in such cases, the AWS licensee is only required to provide comparable facilities for the portions of the system that are primary and eligible for relocation.[117]

34. Because we have already identified relocation spectrum in the 2496-2690 MHz band (2.5 GHz band) for BRS licensees currently in the 2150-2160/62 MHz band (2.1 GHz band), we also sought comment in the *AWS Fifth Notice* on a proposal whereby the Commission would reassign 2.1 GHz BRS licensees, whose facilities have not been constructed and are not in use per Section 101.75 of the Commission's rules, to their corresponding frequency assignments in the 2.5 GHz band as part of the overall BRS transition.[118] Specifically, we proposed to modify the licenses of these 2.1 GHz BRS licensees to assign them 2.5 GHz spectrum in the same geographic areas covered by their licenses upon the effective date of the *Report and Order* in this proceeding.[119] Under this proposal, no subscribers would be harmed by immediately reassigning these licensees to the 2.5 GHz band, consistent with our policy. Further, these BRS licensees could become proponents in the transition of the 2.5 GHz band and avoid delay in initiating new service (they would be limited in initiating or expanding service in the 2.1 GHz band under other proposals put forth in the *AWS Fifth Notice*), and new AWS entrants in the 2.1 GHz band could focus their efforts on relocating the remaining BRS operations and their subscribers, facilitating their ability to clear the band quickly and provide new service.

35. Verizon and CTIA generally support the reassignment proposal while WCA objects on the basis that BRS licensees would be left in a "spectral no man's land" until the market has transitioned because they would not be able to use the 2.1 GHz band (since there is no longer any underlying license authorizing operation on those channels) or the 2.5 GHz band (since the spectrum is allocated to others pending transition to the new band plan).[120] WCA contends that offering BRS licensees the ability to act as proponents in the 2.5 GHz band does not alleviate the problem because the Commission has concluded that BRS licensees are authorized to use BRS spectrum under the existing 2.1 GHz band plan pending the

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address situations where modifications to BRS systems that are in use are necessary as a result of special circumstances, such as those described above, on a case-by-case basis. We note that, in general, an application for a new facility that is filed after the effective date of this *Report and Order* will render the new facility secondary and thus, not eligible for relocation. *See supra* ¶ 25.

[115] *See supra* ¶ 25*; see also* 47 C.F.R. § 2.106, footnote NG153.

[116] *See infra* ¶ 44.

[117] We note that where relocation-eligible major modifications are made to already deployed incumbent facilities, system-by-system relocation is still required, *i.e.,* each additional customer's equipment must be relocated to comparable facilities.

[118] *See AWS Fifth Notice*, 20 FCC Rcd at 15876-77, ¶ 19.

[119] *Id.* We proposed to undertake these license modifications pursuant to our authority under Section 316 of the Communications Act. *See* 47 U.S.C. § 316. Specifically, Section 316(a)(1) provides that "[a]ny station license . . . may be modified by the Commission . . . if in the judgment of the Commission such action will promote the public interest, convenience and necessity." *See* 47 U.S.C. § 316(a)(1). *See also California Metro Mobile Communications v. FCC,* 365 F.3d 38, 45 (D.C. Cir. 2004) ("*CMMC*"); *Peoples Broadcasting Co. v. United States*, 209 F.2d 286, 288 (D.C. Cir. 1953); *Community Television, Inc. v. FCC*, 216 F.3d 1133, 1140 (D.C. Cir. 2000); *Rainbow Broadcasting v. FCC*, 949 F.2d 405, 410 (D.C. Cir. 1991).

[120] *See* Verizon Comments at 5; CTIA Comments at 11-12; WCA Comments at 48-49.

transition to the new band plan at 2.5 GHz.[121] On the other hand, WCA "agrees that, as the FCC auctions new BRS geographic licenses for BTA authorizations that have been forfeited since the 1996 initial auction, the [BRS] auction winner should not have a right to relocation, but instead should have an immediate authority to operate at 2496-2500 MHz and 2686-2690 MHz pre-transition [WCA's proposed interim band plan] or 2496-2502 MHz and 2618-2623 MHz following transition [the designated channel plan for BRS 1 and 2/2A operations in the 2.5 GHz band]."[122]

36. Upon consideration of the record, we will not mandate reassignment of BRS licensees who have no facilities constructed and in use as of the effective date of this *Report and Order*, but we will not preclude these BRS incumbents from voluntarily seeking such reassignment from the Commission. Thus, these BRS licensees will not be forced to exchange their existing license in the 2.1 GHz band for an updated license authorizing operation in the 2.5 GHz band upon the effective date of this *Report and Order* because their corresponding channel assignments in the 2.5 GHz band may be unavailable for use pending the transition to the new band plan. We will instead afford these BRS licensees the flexibility to seek the reassignment of their licenses to their corresponding frequencies in the 2.5 GHz band at a time that is most convenient (*e.g.*, when the transition for their geographic area is complete). However, as noted above, BRS licensees who have no facilities constructed and in use as of the effective date of this *Report and Order* are not entitled to relocation to comparable facilities, regardless of whether they initiated operations under an existing (2.1 GHz band) or reassigned (2.5 GHz band) license.

2. Negotiation Periods/Relocation Schedule

37. Under our *Emerging Technologies* policies, there are two periods of negotiations – one voluntary and one mandatory – between new entrants and incumbents for the relocation of incumbent operations, followed by the involuntary relocation of incumbents by new entrants where no agreement is reached.[123] In the *AWS Fifth Notice*, we generally proposed to require that negotiations for relocation of BRS operations be conducted in accordance with our *Emerging Technologies* policies, except that we proposed to forego a voluntary negotiation period and instead require only a mandatory negotiation period that must expire before an emerging technology licensee could proceed to request involuntary relocation.[124] We recognized that the new band where the BRS incumbents are to be relocated is undergoing its own transition process that may not be completed until at least 2008.[125] In light of these considerations, we proposed to forego a voluntary negotiation period and institute "rolling" mandatory negotiation periods (*i.e.,* separate, individually triggered negotiation periods for each BRS licensee) of three years followed by the involuntary relocation of BRS incumbents.[126] We also proposed that the

[121] WCA Comments at 48-49. A proponent is generally a BRS or EBS licensee or EBS lessee that initiates a transition in the 2.5 GHz band by filing an Initiation Plan with the Commission. *See BRS R&O*, 19 FCC Rcd 14165 at 14200, ¶¶ 78-79.

[122] WCA Comments at 43, n. 86.

[123] *See* 47 C.F.R. § 101.71 (voluntary negotiations) and § 101.73 (mandatory negotiations); *see also Emerging Technologies Third R&O*, 8 FCC Rcd at 6595, ¶ 15; *Microwave Cost Sharing First R&O and FNPRM,* 11 FCC Rcd 8825.

[124] *See AWS Fifth Notice*, 20 FCC Rcd at 15879-80, ¶ 24.

[125] *See AWS Fifth Notice*, 20 FCC Rcd at 15879-80, ¶ 24. We noted that the BRS transition plan for the new band at 2496-2690 MHz has five stages: (1) the initiation of the transition process – when a proponent files an initiation plan for a geographic area with the Commission; (2) the transition planning period – where parties can file counterproposals and any disputes would go to arbitration; (3) the reimbursement of costs; (4) the termination of incumbent operations; and (5) the filing of post-transition notification of completion with the Commission. The approximate time needed for the re-banding process includes 3-3½ years for the initiation and planning stages and 1½ years for the actual relocation, for a total of approximately five years. *See BRS R&O and FNPRM*, 19 FCC Rcd at 14197-208, ¶¶ 72-103.

[126] We further noted that relocation of BRS operations by AWS licensees is more likely to take place in a relatively piecemeal fashion and over an extended period of time. Consequently, a uniform mandatory negotiation period (continued….)

mandatory negotiation period would be triggered for each BRS licensee when an AWS licensee informs the BRS licensee in writing of its desire to negotiate. If no agreement is reached during negotiations, the Commission proposed that an AWS licensee may proceed to involuntary relocation of the incumbent. In such a case, the new AWS licensee must guarantee payment of all relocation expenses, and must construct, test, and deliver to the incumbent comparable replacement facilities consistent with *Emerging Technologies* procedures.[127] We noted that under *Emerging Technologies* principles, an AWS licensee would not be required to pay incumbents for internal resources devoted to the relocation process or for fees that cannot be legitimately tied to the provision of comparable facilities, because such expenses are difficult to determine and verify.[128] Finally, we sought comment on whether to apply a "right of return" policy to AWS/BRS relocation negotiations similar to rule 47 C.F.R. § 101.75(d) (*i.e.,* if after a 12 month trial period, the new facilities prove not to be comparable to the old facilities, the BRS licensee could return to the old frequency band or otherwise be relocated or reimbursed).[129]

38. The record generally supports our negotiation proposals.[130] However, BellSouth argues that both AWS entrants and BRS incumbents should be able to trigger the three year mandatory negotiation period.[131] In addition, Sprint Nextel argues that a BRS incumbent should not be required to relocate until the 2.5 GHz band transition is completed in the market at issue.[132] Finally, commenters were split on whether to apply a "right of return."[133]

39. Based on our review of the record, we will continue to generally follow our *Emerging Technologies* policies for negotiations and adopt our proposal to forego a voluntary negotiation period and establish "rolling" mandatory negotiation periods (*i.e.,* separate, individually triggered negotiation periods for each BRS licensee) of three years followed by an involuntary relocation period during which the AWS entrant may involuntarily relocate the BRS incumbents. Under our *Emerging Technologies* policies, the mandatory negotiation period is intended as a period of negotiation between the parties on relocation terms resulting in a contractual relocation agreement.[134] The mandatory negotiation period ensures that an incumbent licensee will not be faced with a sudden or unexpected demand for involuntary relocation if an emerging technology provider initiates its relocation request to obtain early entry to the reallocated spectrum, and provides adequate time to prepare for relocation. During mandatory negotiations, the parties are afforded flexibility in the process except that an incumbent licensee may not refuse to negotiate and all parties are required to negotiate in good faith.[135] Each mandatory negotiation period would be triggered for each BRS licensee when an AWS licensee informs the BRS licensee in writing of its desire to negotiate. The new 2.5 GHz band where the BRS incumbents are to be relocated is

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applicable to all BRS licensees could possibly expire by the time that many BRS licensees were approached for relocation by an AWS entrant. *See AWS Fifth Notice*, 20 FCC Rcd at 15879-80, ¶ 24.

[127] *See* 47 C.F.R. § 101.75 for details on costs and the definition of comparable facilities.

[128] 47 C.F.R. § 101.75.

[129] *See AWS Fifth Notice*, 20 FCC Rcd at 15880-81, ¶ 25.

[130] *See, e.g.,* CTIA Comments at 7-8; T-Mobile Comments at 4-5; CTIA Reply at 3; Sprint Nextel Reply at 16.

[131] *See* BellSouth Comments at 6-7; *but see* CTIA Reply at 3.

[132] Sprint Nextel Comments at 37-39; Sprint Nextel Reply at 10.

[133] Commenters who opposed a right of return policy were Verizon, T-Mobile, and CTIA, who proposed that the BRS incumbent's license to operate in the 2.l GHz band should be automatically cancelled once the incumbent has been relocated. *See* Verizon Comments at 6-7; T-Mobile Reply at 7-8; CTIA Comments at 13. WCA and C&W supported a right of return policy as a remedy of last resort, especially if the BRS incumbent is allowed to select and deploy its own comparable facilities. *See* WCA Comments at 16-18; C&W Comments 5-6.

[134] *See Emerging Technologies Third R&O*, 8 FCC Rcd at 6595, ¶ 15.

[135] 47 C.F.R. § 101.73.

undergoing its own transition process that may not be completed for several years. Thus, we will allow the BRS licensees to suspend the running of the three year negotiation period for up to one year if the BRS licensee cannot be relocated to comparable facilities at the time the AWS licensee seeks entry into the incumbent's GSA, *i.e.*, if the BRS licensee's spectrum in the 2.5 GHz band is not yet available because of the 2.5 GHz band transition. We find that, in this unique circumstance, providing the BRS incumbent with an additional year to negotiate before an AWS licensee can invoke involuntary relocation sufficiently accounts for any delay in the availability of the BRS licensee's designated relocation spectrum in the 2.5 GHz band, without unduly burdening the AWS licensee's entry into the 2.1 GHz band.

40. If no agreement is reached during negotiations, an AWS licensee may proceed to involuntary relocation of the incumbent. During involuntary relocation, the new AWS licensee must guarantee payment of all relocation expenses necessary to provide comparable replacement facilities. Consistent with our *Emerging Technologies* principles, an AWS licensee would not be required to pay incumbents for internal resources devoted to the relocation process or for fees that cannot be legitimately tied to the provision of comparable facilities, because such expenses are difficult to determine and verify.[136] In addition, an AWS entrant must ensure that the BRS incumbent's spectrum in the 2.5 GHz band is available for the market at issue (or an alternate location, *e.g.*, a temporary location in the 2.5 GHz band, for the provision of comparable facilities) prior to relocating that incumbent.[137] This approach is generally consistent with *Emerging Technologies* procedures for involuntary relocation, except that, because AWS entrants and BRS incumbents are potential competitors, we must include special provisions to protect the BRS licensees' legitimate commercial interests. Accordingly, BRS incumbents cannot be required to disclose subscriber location information so that AWS licensees would be able to construct, test, and deliver replacement facilities to the incumbent and will have to take a much more active role in the deployment of comparable facilities in an involuntary relocation than has typically been the case under previous applications of the *Emerging Technologies* policies.[138] In order to ensure that all parties are acting in good faith while simultaneously protecting BRS licensees' legitimate commercial interests, we will permit AWS licensees to request that the BRS incumbent verify the accuracy of its subscriber counts by, for example, requesting a one-to-one return or exchange of existing end user equipment.

41. Finally, we find that a "right of return" policy is appropriate here. Under *Emerging Technologies* policies, the purpose of a right of return is to ensure that incumbents have a full opportunity to operate their new systems under real-world operating conditions and to obtain redress from the AWS licensee if the new facilities are not comparable.[139] The right of return therefore resides with the incumbent as a function of our relocation rules, not with the AWS entrant, as alleged by some

[136] Conversely, costs that are compensable include all engineering (*e.g.,* design/survey, installation, and testing), equipment, site, and FCC filing fees, as well as any legitimate and prudent transaction expenses incurred that are directly attributable to an involuntary relocation. BRS incumbents' costs directly associated with the actual relocation of end user equipment used to receive BRS service (*e.g.,* installation and testing) would likewise be compensable. We note that this list should be illustrative, not exhaustive, because some actual relocation expenses may not fit neatly into these categories. *See* 47 C.F.R. § 101.75; *Microwave Cost Sharing First R&O*, 11 FCC Rcd 8825, Appendix A.

[137] WCA references its proposal, found in its petition for reconsideration of the *BRS R&O and FNPRM* in WT Docket No. 03-66*,* for an interim band plan whereby BRS 1 and 2 licensees would be relocated to 2496-2500 MHz and 2686-2690 MHz, respectively, pending the completion of the 2.5 GHz band's transition. *See* WCA Comments at 46-47. This proposal for an interim band plan will be addressed in the *BRS/EBS Third MO&O* (FCC 06-46). In any event, we anticipate that equipment in the 2.5 GHz band is likely to be frequency agile across the band. Thus, retuning equipment to operate on the BRS channel 1 and 2 licensee's assigned frequencies upon completion of 2.5 GHz band's transition is likely to be all that is necessary for comparable facilities.

[138] *See* 47 C.F.R. § 101.75.

[139] *Microwave Cost Sharing First R&O*, 11 FCC Rcd 8825 at ¶¶ 44-50.

commenters. Accordingly, we will apply a "right of return" policy to AWS/BRS involuntary relocations only – if one year after relocation, the new facilities prove not to be comparable to the old facilities, the AWS licensee must remedy the defects by reimbursement or pay to relocate the BRS licensee to its former frequency band or other comparable facility (until the sunset date).[140]

42. *Sunset Date.* In the *AWS Fifth Notice,* we proposed to apply the sunset rule of 47 C.F.R. § 101.79 to BRS relocation negotiations.[141] This sunset rule provides that new licensees are not required to pay relocation expenses after ten years following the start of the negotiation period for relocation. We also proposed that the ten year sunset date commence from the date the first AWS license is issued in the 2150-2160 MHz band.[142] The *AWS Fifth Notice* then sought comment on how a sunset rule should be applied to take into account the nuances affecting the relocation of BRS incumbents from the 2150-2160 MHz band (*e.g.,* whether we should establish multiple sunset dates or a single sunset date for the entire band since portions of the band will be made available for auction at different times).[143]

43. CTIA contends that a single sunset date is more appropriate than multiple sunset periods.[144] Sprint Nextel and CTIA claim that a ten year sunset period is insufficient and instead argue that the sunset date should correspond to the initial license term, *i.e.*, fifteen years, of the AWS licensee.[145] BRS commenters argue that the AWS licensee's relocation obligation should not sunset, or alternately, the Commission should require that all BRS operations (channels 1 and 2/2A) in the 2150-2160/62 MHz band be relocated by AWS entrants to the 2.5 GHz band by a specific date, *i.e.,* a "relocation deadline" of either ten or fifteen years.[146] They argue that because AWS licensees have a fifteen year initial license term to demonstrate substantial service (*i.e.*, twenty percent of population in its service area served), it is likely that the AWS licensee may not deploy in many areas, especially rural areas, within a ten year or even a fifteen year sunset period.[147] Therefore, they propose that the Commission establish a relocation deadline, as it did in the *800 MHz proceeding*, and require AWS entrants to relocate all BRS incumbents in the 2.1 GHz band within ten years following the grant of the first AWS license.[148]

44. We disagree with commenters who argue that no sunset date should be applied or that a relocation deadline of either ten or fifteen years is more appropriate. Because our *Emerging Technologies* principles are intended to allow new licensees early entry into the band and are not designed as open-ended mechanisms for providing relocation compensation to displaced incumbents, it would be inconsistent with those principles to eliminate the sunset date. We continue to believe that the sunset date is a vital component of the *Emerging Technologies* relocation principles because it provides a measure of certainty for new technology licensees, while giving incumbents time to prepare for the eventuality of

[140] The "right of return" is only automatic if involuntary relocation occurs. If the parties decide a trial period should be established for relocations that occur as a result of mandatory negotiations, they must provide for such a period in the relocation contract. *See Microwave Cost Sharing First R&O,* 11 FCC Rcd 8825. As a practical matter, we would expect the right of return to be used as a remedy of last resort in order to minimize disruption to the BRS incumbents' customers.

[141] *AWS Fifth Notice*, 20 FCC Rcd at 15881, ¶ 26.

[142] *Id.*

[143] *Id.*

[144] CTIA Comments at 12.

[145] *See* CTIA Comments at 12; Sprint Nextel Comments at 44-45.

[146] *See, e.g.,* BellSouth Comments at 9; C&W Comments at 6; SpeedNet Reply at 3; Polar/Northern Wireless Reply at 6-7; Evertek Reply at 3-4; Radiofone Reply at 3; W.A.T.C.H. TV Reply at 5-6.

[147] *See, e.g.,* WCA Comments at 28-32; BellSouth Reply at 5-6; Sioux Valley Wireless Reply at 4-5.

[148] *See* WCA Comments at 27-28; Sprint Nextel Reply at 14-16; C&W Reply at 3.

moving to another frequency band.[149] Further, the unique circumstances, *i.e.*, reconfiguring and transitioning the 800 MHz band to alleviate unacceptable interference to public safety operations in the band, that required setting a relocation deadline for clearing incumbent operations in the *800 MHz proceeding* are not present here. However, as noted above, we recognize that the 2.5 GHz band, where the BRS incumbents are to be relocated, is undergoing its own transition process and that relocation of existing 2.5 GHz operations may not be completed for several years. Also, because portions of the spectrum in the 2150-2160/62 MHz band will be made available for AWS auction at different times, *i.e.,* spectrum now occupied by part of BRS channel 1 (2150-2155 MHz) will be licensed in an upcoming auction of the 2110-2155 MHz band, while spectrum occupied by BRS channels 2 and 2A and the upper one megahertz of BRS channel 1 (2155-2160/62 MHz) will be licensed at a later date, the entry of AWS licensees into the entire band will occur at different times.[150] To account for these unique circumstances, we believe that additional time before the AWS entrant's relocation obligation ends may be warranted. We therefore adopt a single sunset date of fifteen years, commencing from the date the first AWS license is issued in the 2150-2160 MHz band, after which new AWS licensees are not required to pay for BRS relocation expenses.

45. *Good Faith Requirement.* We expect the parties involved in the replacement of BRS equipment to negotiate in good faith, that is, each party would be required to provide information to the other that is reasonably necessary to facilitate the relocation process. Among the factors relevant to a good-faith determination are: (1) whether the party responsible for paying the cost of band reconfiguration has made a *bona fide* offer to relocate the incumbent to comparable facilities; (2) the steps the parties have taken to determine the actual cost of relocation to comparable facilities; and (3) whether either party has unreasonably withheld information essential to the accurate estimation of relocation costs and procedures requested by the other party.[151] The record generally supports a good faith requirement[152] and we therefore adopt our proposal to apply the good faith guidelines of 47 C.F.R. § 101.73 to BRS negotiations. In addition, we note that our cost-sharing rules require the AWS relocator to obtain a third party appraisal of relocation costs, which, in turn, would require the appraiser to have access to the BRS incumbent's system prior to relocation. Accordingly, we will require that a BRS incumbent cooperate with an AWS licensee's request to provide access to the facilities to be relocated, other than subscribers' end user equipment, so that an independent third party can examine the system and prepare an appraisal of the costs to relocate the incumbent to comparable facilities.

3. Interference Issues/Technical Standards

46. Under Section 24.237 of our Rules, PCS licensees operating in the 1850-1990 MHz band and AWS licensees operating in the 2110-2155 MHz band must, prior to commencing operations, perform certain engineering analyses to ensure that their proposed operations do not cause interference to incumbent fixed microwave services. Part of that evaluation calls for the use of Telecommunications Industry Association Telecommunications Systems Bulletin 10-F (TIA TSB 10-F) or its successor standard.[153] In the *AWS Fifth Notice*, we sought comment on whether a rule comparable to Section 24.237 in our rules should be developed that could be used to determine whether proposed AWS

[149] *See MSS Third MO&O*, 18 FCC Rcd at 23661, ¶ 46.

[150] *See supra* ¶ 3 (describing how the Commission has set forth service rules and anticipated auction timing for the 2150-2155 MHz band, whereas development of the 2155-2160 MHz band is on a different timetable).

[151] *See Microwave Cost Sharing First R&O and FNPRM,* 11 FCC Rcd 8825, 8837-8838 ¶ 21.

[152] WCA Comments at 21; Sprint Nextel Reply at 7.

[153] *See* 47 C.F.R. § 24.237. *See also* Amendment of the Commission's Rules to Establish New Personal Communications Services, *Second Report and Order*, 8 FCC Rcd 7700, 7762 ¶ 150 (1993); *Memorandum Opinion and Order*, 9 FCC Rcd 4957, 5029 ¶ 186 (1994). TIA TSB 10-F, *inter alia,* sets forth the carrier-to-interference ratios for new entrants to use in determining whether a proposed station will cause interference to incumbent microwave stations. *See generally*, TIA TSB 10-F.

operations would cause interference to incumbent BRS systems operating in the 2150-2160 MHz band and, if so, what procedures and mechanisms such a rule should contain (*e.g.*, a "distance" table, such as Table 2 in Section 24.237 of our Rules, which identifies the distance from an AWS station within which a BRS station must be protected; the use of TIA TSB 10-F, or some comparable document, to determine when interference to BRS stations is expected to occur, *etc.*).[154] We asked commenters to provide information that could be used to develop criteria applicable to BRS operations, and to indicate whether and how TIA TSB 10-F could be used to determine the potential for interference to BRS systems. Alternatively, we asked those not favoring the use of a Section 24.237-type rule to specify procedures we could adopt to enable AWS licensees to determine whether their operations would cause interference to incumbent BRS systems.[155]

47. Commenters generally oppose the idea of using a Section 24.237-type rule or TIA TSB 10-F to determine whether an AWS entrant would interfere with a BRS incumbent's system. Sprint Nextel and WCA contend that the point-to-point methodology contained in the analysis methods we proposed would be impracticable to apply to point-to-multipoint BRS systems, and CTIA contends that TIA TSB 10-F would not adequately address the interference potential of AWS entrants to BRS incumbents.[156]

48. A number of parties, including Sprint Nextel, WCA, and CTIA, propose that an AWS licensee that wants to deploy within line of sight of a BRS receive station hub (the parties define this geographic area as a "relocation zone") be required to relocate the BRS system and the customers served by that system.[157] This technique simply determines whether an AWS facility's transmit antenna can 'see' a BRS receive site. Sprint Nextel and WCA contend that the relocation zone approach is an appropriate interference analysis technique because an AWS base station that proposes to operate on any channel within line of sight of a centralized BRS channel 1 and/or 2/2A receive station hub would interfere with the BRS receive station hub as a result of the AWS signal exceeding the noise floor of the BRS receiver.[158] Sprint Nextel also believes that drawing a relocation zone around the centralized BRS channel 1 and 2 receive station offers a reliable and simple means of triggering new AWS entrants' relocation obligations.[159] CTIA believes that the "bright-line" test for protection of BRS systems that the relocation zone proposal would provide is essential for an efficient transition and would facilitate the rapid roll-out of advanced services by allowing new entrants to quickly determine where they are free to deploy, while also providing new entrants the certainty they need to develop AWS deployment plans.[160]

49. Sprint Nextel and WCA note that the Commission previously developed a detailed technical explanation of how to conduct a line-of-sight analysis from a centralized BRS response station hub as part of the decision to permit two-way broadband services in the 2500-2690 MHz BRS/EBS band, and they ask us to look to this approach to determine potential AWS interference to a BRS receive station

[154] *See AWS Fifth Notice*, 20 FCC Rcd at 15882, ¶ 29.

[155] *Id.*

[156] *See* Sprint Nextel Comments at 20-21; WCA Comments at 35; CTIA Comments at 5.

[157] *See* Sprint Nextel Comments at 26-27; WCA Comments at 35-36; CTIA Comments at 5-6; CTIA Reply at 3. WCA specifically proposes that the line-of-sight relocation obligation be applied to any AWS licensee operating in the 2110-2155 MHz band, while other commenters do not specify whether such a rule should be applied to new entrants that operate co-channel to BRS at 2150-2155 MHz as well as to those in the adjacent 2110-2150 MHz band. *Compare* WCA Comments at 35 *with* CTIA Reply at 3.

[158] *See* Sprint Nextel Comments at 14-17; WCA Comments at 35.

[159] *See* Sprint Nextel Comments at 26.

[160] *See* CTIA Comments at 5; CTIA Reply at 3.

hub.[161] In the case of those BRS licensees (and their lessees) that use the 2150-60/62 MHz band for the downstream transmission of video programming to subscribers' households, WCA also proposes requiring any AWS licensee that intends to operate within line of sight of such a BRS licensee's GSA to commence mandatory negotiations with the BRS licensee, and notes that such an approach would recognize that a subscriber could be located anywhere in the BRS licensee's GSA.[162] To determine whether a proposed AWS system has line of sight to a BRS licensee's GSA, WCA proposes, and BellSouth supports, using the methodology that was formerly codified in Section 21.902(f)(5)(2004) of the Commission's rules and that was previously used as part of conducting an interference analysis for BRS and EBS licensees.[163] Sprint Nextel suggests a slightly different approach in which the relocation zone would be based on a predicted area where AWS mobile receivers may experience harmful interference from a BRS transmitter[164] WCA objects to using this relocation criteria, stating that because interference will occur at subscriber locations, BRS downstream video licensees have been authorized to serve subscribers at any location within the GSA, and they have traditionally received protection within the entire GSA, the test should be based on line of sight into a BRS GSA.[165]

50. T-Mobile expresses concerns that the use of a line-of-sight test to decide whether an AWS system will interfere with a BRS system may overestimate the potential interference from new AWS operations to incumbent BRS systems and recommends using a model "more based on real-world interference effects." It nevertheless recognizes that a line-of-sight test offers a measure of certainty and administrative convenience that should expedite the relocation and cost-sharing processes and which "greatly outweighs the over inclusive nature of such a methodology."[166] To the extent that we adopt the line-of-sight test embodied in the relocation zone proposal, T-Mobile asks us to specify a particular model for determining line of sight, as well as any other variable inputs into such a determination, in order to remove any ambiguity as to whether or not a threshold condition has been met.[167] US Cellular also expresses concerns that extension of the line-of-sight test to all new AWS entrants – especially to those that are not co-channel to BRS – could cause a significant delay in the commencement of service over the entire 2110-2155 MHz AWS spectrum band.[168]

51. As an initial matter, we conclude that relocation zones are appropriate for assessing the interference potential between new co-channel AWS entrants' operations and existing BRS facilities. In addition to being supported by many commenters, the line-of-sight approach embodied in the relocation zone approach will draw on the established methodology that was formerly set out in Part 21 of our

[161] Sprint Nextel Comments at 29-30 and n.54; WCA Comments at 36. This methodology was set forth in "Methods for Predicting Interference from Response Station Transmitters and to Response Station Hubs and for Supplying Data on Response Station Systems. MM Docket 97-217," in Amendment of Parts 1, 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensee to Engage in Fixed Two-Way Transmissions, MM Docket No. 97-217, *Report and Order on Further Reconsideration and Further Notice of Proposed Rulemaking*, Appendix D, 15 FCC Rcd 14566, 14610 (2000) ("*Two-Way R&O and FNRPM*").

[162] *See* WCA Comments at 36. *See also* BellSouth Reply at 2 (contending that an approach that does not take into account BRS subscriber locations is insufficient to protect BRS incumbent licensees' operations).

[163] *See* WCA Comments at 36-37. Section 21.902(f)(5)(2004) of the Commission's Rules determined line of sight based on the assumption that a BRS receiving antenna is installed 30 feet above ground level at each point in the GSA, determination of the actual height of the proposed station's transmitting antenna and actual terrain elevation data, and assumption of 4/3 Earth radius propagation conditions.

[164] Sprint Nextel Comments at 32-33.

[165] WCA Reply at 21.

[166] *See* T-Mobile Reply at 4-5.

[167] *Id*.

[168] US Cellular Reply at 3.

Rules, as well as previous Commission decisions regarding the BRS and EBS,[169] and will provide an easy-to-implement calculation that will afford new AWS entrants some certainty in planning new systems. Similarly, as Sprint Nextel notes, this approach will permit new AWS entrants to readily identify those areas that fall outside a relocation zone and in which they can rapidly deploy services without first having to relocate incumbent BRS operations.[170] We note that this approach is narrowly tailored insofar as each relocation zone will be unique to the geography and system characteristics of a particular BRS receive site.[171] To the extent that a relocation zone may require an AWS entrant to relocate some BRS systems that would not receive actual harmful interference, we agree with those commenters who assert that the administrative ease realized by implementing the relocation zone's "bright-line test" will serve to promote the rapid deployment of new AWS operations by eliminating complex and time consuming site-based analyses, and outweighs any disadvantages associated with any over inclusiveness.

52. To determine whether a proposed AWS base station will have line of sight to a BRS receive station hub, we will require AWS entrants that propose to implement co-channel operations in the BRS band (*i.e.*, AWS licensees using the upper five megahertz of channel block F – or the 2150-2155 MHz portion of the 2145-2155 MHz block, or the 2155-2162 MHz portion of the 2155-2175 MHz band) to use the methodology the Commission developed for licensees to employ when conducting interference studies from and to two-way MDS/ITFS systems.[172] This methodology, which was widely supported by commenters and has been successfully used by the Commission in the past, provides a detailed technical explanation of precisely how to conduct a line-of-sight analysis from a base station transmitter that accounts for topology.[173] Where the AWS entrant has determined that its station falls within the relocation zone under this methodology, then the AWS entrant must first relocate the co-channel BRS system that consists of that hub and associated subscribers before the AWS entrant may begin operation. In the particular case of an incumbent BRS licensee that uses channel(s) 1 and/or 2/2A for the delivery of video programming to subscribers, we recognize that the relocation zone approach will need to operate in a slightly different manner because potential interference from the AWS licensee would occur at the subscriber's location instead of at a BRS receive station hub.[174] In order to provide interference protection to subscribers in a manner that does not require disclosure of sensitive customer data, and to recognize that these BRS licensees may add subscribers anywhere within their licensed GSA, the most appropriate method to ascertain whether interference could occur to BRS systems providing one-way video delivery in channels 1 and/or 2/2A is to determine whether the AWS base station has line of sight to a co-channel BRS incumbent's GSA.[175] To make this determination, we will require co-channel AWS

[169] *See* Amendment of Parts 1, 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensee to Engage in Fixed Two-Way Transmissions, MM Docket No. 97-217, Appendix D, *Report and Order*, 13 FCC Rcd 19112, 19265 (1998).

[170] Sprint Nextel Comments at 27. We note that while the relocation zone proposal may serve as a reliable indicium of where interference to BRS licensees could be expected, a new entrant will remain responsible for resolving any actual harmful interference to incumbent BRS operations – including relocation of that incumbent licensee – if the new entrant's operations cause harmful interference and regardless of whether such interference was predicted under an interference zone analysis. *See* WCA Comments at 37, n.76.

[171] *See, e.g.*, Sprint Nextel Comments at 31.

[172] *See supra* note 161 (discussing the methodology contained in the *Two-Way R&O and FNRPM*).

[173] *See* Sprint Nextel Comments at 30.

[174] Two-way BRS systems are generally designed such that BRS channels 1 and/or 2/2A are used for the transmission of data from a subscriber's location back to the hub antenna and, accordingly, any interference would occur at the BRS receive station hub site. *See* WCA Comments at 2, n.4.

[175] For purposes of this determination, it does not matter whether an actual subscriber is in the line of sight of the AWS licensee's base station.

entrants to use the methodology that was formerly codified in Section 21.902(f)(5)(2004) of the Commission's rules.[176] This methodology is also supported by commenters and has been widely used by BRS and EBS licensees to ascertain whether a new entrant's proposed station will have line of sight to a BRS incumbent's GSA.[177] Because our relocation rules serve to protect incumbent BRS operations – and by extension, the subscribers of BRS video systems – from harmful interference caused by AWS licensees seeking early entry into the band, we conclude that the approach suggested by WCA and BellSouth best serves these interests because it will assure that all subscribers within a GSA are protected from harmful interference.

53. Although the relocation zone approach is well suited for new entrants that propose to implement co-channel operations in the BRS band, we conclude that simply using a line-of-sight methodology for determining the relocation obligations of adjacent channel (*e.g.*, AWS licensees using the lower five megahertz of channel block F – or the 2145-2150 MHz portion of the 2145-2155 MHz block) and non-adjacent channel AWS licensees (*e.g.*, AWS licensees using channel blocks A-E, from 2110-2145 MHz), is not appropriate.[178] In this situation, such AWS operations will not pose a large enough potential for interference to BRS incumbent licensees to warrant an automatic relocation obligation without first determining whether harmful interference to BRS will actually occur. There are a number of factors (*e.g.*, desired and undesired received signal levels, BRS receiving antenna angular and polarization discrimination, *etc.*) besides just having a line-of-sight path to a BRS receiver and a signal which exceeds the BRS receiver's noise floor that typically have been used in determining whether a new entrant will cause interference to an existing BRS station, and we conclude that we cannot discount these elements here.[179] For example, signal attenuation due to antenna directionality can mean that two stations can be within the line of sight of each other without causing harmful interference. For these reasons, we specifically reject the contention that any AWS base station in the 2.1 GHz band that proposes to operate within line of sight of a centralized BRS channel 1 and/or 2/2A receive station hub will always interfere with the BRS receive station hub.[180] Similarly, we do not believe that the potential for AWS intermodulation (*i.e.* interference caused when multiple signals from different frequency bands combine to create harmful interference in a particular frequency band – the band in which BRS operations are located, in this instance) or AWS cross-modulation (interference caused by the modulation of the carrier of a desired signal by an undesired signal) is so severe that either situation warrants special treatment.[181]

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[176] This rule was removed in conjunction with the restructuring of BRS and EBS in the 2496-2690 MHz band.

[177] *See, e.g.*, WCA Comments at 36-37.

[178] In the 2155-2175 MHz band, AWS stations operating on the 2160-2175 MHz portion of the band are co-channel with BRS channel 2 stations and are adjacent to BRS channel 2A stations. AWS stations operating on the 2162-2175 MHz portion of the 2155-2175 MHz band are adjacent to BRS channel 2 stations, but are non-adjacent to BRS channel 2A stations.

[179] *See* 47 C.F.R. § 21.902 (2004). *See also* "Methods for Predicting Interference from Response Station Transmitters and to Response Station Hubs and for Supplying Data on Response Station Systems. MM Docket 97-217," in *Two-Way R&O and FNRPM*, Appendix D, 15 FCC Rcd 14566, 14610, which required, *inter alia*, the use of a line-of-sight analysis along with the aggregate power of proposed response station transmitters and the characteristics of receive station hub receiving antennas in conducting an interference analysis for proposed MDS and ITFS response stations.

[180] *See, e.g.*, WCA Comments at 35. Similarly, in the case of a BRS licensee that provides downstream video programming, line of sight from an AWS station to a BRS GSA and a signal that exceeds the BRS receiver's noise floor will not always produce interference at a BRS subscriber's location.

[181] *See* Sprint Nextel February 7, 2006, *Ex Parte*, at 1. In the accompanying Engineering Statement of Robert Gheman, Jr., P.E., at 3, Sprint Nextel contends that BRS stations in the 2.1 GHz band will experience harmful interference due to cross modulation and/or intermodulation from AWS operations on any channel in the 2110-2155 MHz band.

For example, if there is only one AWS entrant operating on one non-adjacent channel within line of sight of a BRS system, co-channel and/or adjacent channel intermodulation products are not likely to occur.

54. Together, these factors lead us to conclude that a line-of-sight test for AWS entrants operating outside the 2150-2160/62 MHz band would be much more over inclusive than the application of such a test to in-band operations. We also find merit in the concerns expressed by US Cellular that expanding the scope of the relocation zone to encompass all AWS entrants could severely delay the deployment of valuable new AWS applications throughout the entire 2110-2155 MHz band, and conclude that the lost benefits associated with delayed AWS deployment would be significant.[182] Also, as a practical matter, determining whether an AWS entrant on an adjacent or non-adjacent channel will cause interference to an incumbent BRS station – particularly in the case of intermodulation – will necessarily be a complex matter potentially involving multiple AWS licensees and the BRS licensee, making the "bright line" test envisioned by the relocation zone particularly ill fitting. For these reasons, we conclude that we can best protect incumbent operations while not unduly restraining the ability of new entrants to rapidly deploy services in the band by not implementing a relocation zone for AWS entrants in the 2110-2150 MHz band or in the 2160/62-2175 MHz band, as applicable. We emphasize, however, that if any AWS system – regardless of where within the 2110-2175 MHz band – causes actual and demonstrable interference to a BRS system, then the AWS licensee is responsible for taking the necessary steps to eliminate the harmful interference, up to and including relocation of the BRS licensee.[183]

B. Relocation of FS in the 2160-2175 MHz Band

55. In the *AWS Fifth Notice*, we discussed how our *Emerging Technologies* relocation principles have been applied to past relocation decisions for AWS bands, and sought comment on the appropriate relocation procedures to adopt for FS incumbents in the 2160-2175 MHz band.[184] As originally adopted, our relocation procedures incorporated a voluntary period during which parties could negotiate relocation terms, but were under no obligation to do so. A mandatory negotiation period then followed, during which the incumbent licensee and new entrant were required to negotiate in good faith. If no relocation agreement had been reached after that period, the new entrant was free to involuntarily relocate the incumbent licensee, under the procedures outlined in the Rules.[185] In the *AWS Second R&O*, the Commission applied a modified version of these *Emerging Technologies* relocation procedures to the 2110-2150 MHz band.[186] Under these procedures, which were first adopted in ET Docket No. 95-18 for FS incumbents in the 2165-2200 MHz band, the Commission eliminated the voluntary negotiation period for relocation of FS incumbents by MSS in the 2165-2200 MHz band.[187] In addition, the Commission decided that a single mandatory negotiation period for the band would be triggered when the first MSS

[182] *See* US Cellular Reply at 2-3.

[183] *See* WCA Comments at 37, n.76 (contending that if an AWS system actually causes interference to a BRS system, the AWS licensee is responsible for curing that interference). This principle would also apply where two or more non-co-channel licensees' transmissions combine to cause interference to BRS operations. We distinguish this interference mitigation responsibility from the cost sharing responsibilities discussed *infra*. We agree with US Cellular that interference caused by new AWS licensees operating outside the BRS band should not trigger cost sharing obligations associated with the relocation of incumbent BRS operations. *See* US Cellular Reply at 4. Where AWS licensees are operating co-channel to BRS incumbents, the determination of whether and how non-co-channel band licensees are responsible for harmful interference to BRS incumbents is a complex and difficult determination for which no record has been developed.

[184] *See AWS Fifth Notice* at ¶ 30 (describing our relocation procedures as they were developed in the *Emerging Technologies* and *Microwave Cost Sharing* proceedings).

[185] *See, e.g.*, 47 C.F.R. §§ 101.71-101.75.

[186] *AWS Second R&O*, 17 FCC Rcd at 23215, ¶ 42-46. The language of Section 101.73(d) was also amended to broaden its scope to include FS relocation by AWS.

[187] *Id*. at 12331, ¶ 46 and 12343, ¶ 86.

licensee informs, in writing, the first FS incumbent of its desire to negotiate.[188] More recently, in the *AWS Sixth R&O*, the Commission concluded that, consistent with its decision in the *AWS Second R&O*, it would be appropriate to apply the same procedures to the relocation of FS by AWS licensees in the 2175-2180 MHz paired band.[189]

56. We proposed to adopt a single mandatory negotiation period that would commence when the first new technology entrant informs the first FS licensee, in writing, of its desire to negotiate. We also sought comment as to whether a separate, individually triggered negotiation period for each incumbent licensee should be implemented in the band and, if so, whether such a 'rolling' negotiation approach should be adopted for the 2110-2150 MHz and 2175-2180 MHz bands in order to provide for a unified approach across the bands. We observed that one potential benefit of a rolling negotiation period approach is that it could afford a greater opportunity for FS incumbents and AWS licensees to engage in relocation negotiations and could promote a more equitable transition to AWS in the band, although we also noted that such an approach might result in more complex relocation timetables.[190] Finally, we proposed to adopt a ten-year sunset period to be triggered when the first AWS license is issued in the band, and asked whether and how we should harmonize existing relocation rules for Part 22 point-to-point microwave links and Part 101 fixed services.[191]

57. Commenters generally support our proposal to draw on existing relocation procedures for the 2160-2175 MHz band. For example, CTIA asserts that FS relocation from the 2160-2175 MHz band should be largely based on the procedures established for the relocation of incumbents in the 1.9 GHz band by PCS entrants.[192] It claims, for example, that the voluntary negotiation period has in the past been used to unduly delay relocations, and supports our proposal to forego the voluntary negotiation period and allow parties to immediately initiate mandatory negotiations.[193] Comsearch is opposed to rolling negotiation periods, contending that having different timeframes in different portions of the band is "complex and borderline unworkable," and will make relocation issues more complex from the

[188] *See* 47 C.F.R. 101.73(d). As then adopted, this section provided, in part, that "[m]andatory negotiations will commence when the Mobile-Satellite Service (MSS) licensee informs the fixed microwave licensee in writing of its desire to negotiate . . . ." In explaining the operation of this rule, the Commission stated that "[b]ecause FS microwave is not an integrated, dynamically coordinated service like BAS, we will not establish a particular start time for negotiations. Rather, we will adhere to our *Emerging Technologies* policy, which states that the negotiation period begins when the *first* licensee in the new service (here, MSS) informs the *first* licensee in the incumbent service (FS microwave), in writing, of its desire to negotiate." (Emphasis added) As a result, there would be a single negotiation period that applied simultaneously to all FS incumbents. *See MSS Second R&O* at 12343, ¶ 86. This proceeding also established that the FS relocation rules would sunset ten years after the negotiations begin for the first FS licensee. *Id.* at ¶ 79-80 (citing *Microwave Cost Sharing First R&O and FNPRM*, 11 FCC Rcd 8825 at ¶ 65).

[189] *AWS Sixth R&O*, 19 FCC Rcd at 20754, ¶ 76. In the *AWS Third R&O*, the Commission reallocated the 1990-2000/2020-2025 MHz and 2165-2180 MHz bands from the Mobile Satellite Service for Fixed and Mobile services to support AWS. *See generally, AWS Third R&O and Third NPRM,* 18 FCC Rcd 2223. In these bands, the legacy incumbent FS operations had not been relocated at the time the band was reallocated from MSS to Fixed and Mobile service.

[190] *AWS Fifth Notice* at ¶ 38.

[191] *AWS Fifth Notice* at ¶ 34 (citing *AWS Sixth R&O*, 19 FCC Rcd at 20754, ¶ 76).

[192] *See* CTIA Reply at 2.

[193] CTIA Comments at 7. *See also* T-Mobile Comments at 4-5.

perspective of the incumbent licensees.[194] Instead, Comsearch suggests that the negotiation period should start from the date the first license is issued for a given block.[195]

58. The Commission's relocation policies were first adopted to promote the rapid introduction of new technologies into bands hosting incumbent FS licensees. Thus, we continue to believe, as a general matter, that the *Emerging Technologies* relocation procedures are particularly well suited for this band. Our review of the historic and current applications of our relocation procedures leads us to adopt the following: we will forgo the voluntary negotiation period and instead adopt a mandatory negotiation period to be followed by the right of the AWS licensee to trigger involuntary relocation procedures. Such an approach is consistent with recent relocation decisions, and we agree with commenters that the voluntary negotiation period may unduly hinder the deployment of valuable new AWS applications. We also adopt, as proposed, a ten-year sunset period for the 2160-2175 MHz band that will be triggered when the first AWS licensee is issued in the band. The sunset date is vital for establishing a date certain by which incumbent operations become secondary in the band, and the date the first license is issued will be both easy to determine and well known among licensees and incumbents in the band.[196]

59. We will also adopt 'rolling' negotiation periods, as proposed in the *AWS Fifth Notice*. Under this approach, a mandatory negotiation period will be triggered when an AWS licensee informs a FS licensee, in writing, of its desire to negotiate for the relocation of a specific FS facility. The result will be a series of independent mandatory negotiation periods, each specific to individual incumbent FS facilities. We conclude that this approach best serves both incumbent licensees and new AWS entrants, and is consistent with the process that was successfully employed for the relocation of FS incumbents by PCS entrants.[197] As several commenters note, AWS deployment in the band is likely to take place over an extended time period, as new licensees gradually build out facilities within their licensed geographic areas. If we were to establish a single mandatory negotiation period that ended for all licensees on the same day, new entrants that were not ready to deploy services would likely have no incentive to engage in negotiations with incumbent licensees during the mandatory negotiation period. The AWS licensees would instead likely invoke involuntary relocation procedures at the time they were actually ready to deploy service. Such an outcome would prevent many incumbent licensees from participating in the negotiation aspect of our relocation process, and would likely result in sudden or unexpected demands for relocation to be placed on them. We do not see how such a result serves the public interest or maintains the balance of equities built into the relocation process. While we recognize the complexities inherent in this approach discussed by Comsearch, we conclude that a rolling negotiation policy is the preferable approach because it will encourage relocations based on negotiated agreements and will minimize surprise or hardship for incumbent licensees.[198] Because, under this approach, a mandatory negotiation

[194] See Comsearch Comments at 7.

[195] *Id.* This approach might result in a series of discrete negotiation periods, each based on the date the first license is issued in each block within the 2160-2175 MHz band. This plan would be similar to the approach used for PCS deployment, which set different negotiation periods for different blocks, but in which all licensees within a given block were subject to the same timetable.

[196] In the *AWS Fifth Notice*, we also asked whether we should establish different sunset dates. Because we have not yet determined how the 2155-2175 MHz band will be made available for assignment, there is no basis for us to establish sunset dates that are unique to discrete portions of the band.

[197] *See* 47 C.F.R. § 101.73(a) (stating that "[t]his mandatory negotiation period is triggered at the option of the ET licensee, but ET licensees may not invoke their right of mandatory negotiation until the voluntary negotiation period has expired").

[198] This approach also better matches the anticipated rollout of service across an AWS licensee's geographic area over an extended time period. Because the AWS licensee will trigger the mandatory negotiation, new entrants will be able to determine their own schedule for relocating incumbent systems. Moreover, we do not believe that this (continued….)

period could be triggered such that it would still be in effect at the sunset date, we further clarify that the sunset date shall supersede and terminate any remaining mandatory negotiation period that had not been triggered or had not yet run its course.

60. Because we are adopting a modified version of our relocation rules for the 2160-2175 MHz band, we will similarly modify our relocation procedures for the 2110-2150 MHz and 2175-2180 MHz bands to establish individually triggered mandatory negotiation periods and to modify the sunset date to be ten years after the first AWS license is issued in each band.[199] In the *AWS Fifth Notice*, we observed that it is desirable to harmonize the FS relocation procedures among the various AWS designated bands to the greatest extent feasible, because doing so "can be expected to foster a more efficient rollout of AWS and minimize confusion among the parties, and thereby serves the public interest."[200] Harmonization is particularly significant in this instance, because the nature of FS operations may require the relocation of paired microwave links in the 2110-2150 MHz and 2160-2200 MHz bands.[201]

61. We also sought comment on how best to harmonize the separate relocation rules that currently exist for point-to-point microwave links under Parts 22 and 101 and that have diverged over time.[202] The *AWS Fifth Notice* described how, when the Commission determined that FS incumbents in the 2.1 GHz band would be subject to modified relocation procedures, the modifications were reflected in the Part 101 relocation rules but inadvertently not included in the Part 22 rules, although Part 22 point-to-point services also operated in the 2.1 GHz spectrum. In addition, we noted that the Commission recently determined that it would not renew the Part 22 point-to-point licenses in the 2110-2130 and 2160-2180 MHz bands, but instead allow all current Part 22 fixed service licenses in these bands to expire at the end of their current term.[203] Citing the benefits of consistent regulatory treatment among similar services, Comsearch and CTIA support application of the relocation rules contained in Part 101 to the relocation of Part 22 FS licensees by new AWS entrants the 2110-2130 MHz and 2160-2180 MHz bands.[204]

(Continued from previous page)
approach will unduly delay the relocation process because AWS licensees have the ability to trigger the mandatory negotiation process well in advance of the date by which they intend to deploy service in a particular area.

[199] Thus, there potentially will be three separate sunset dates for the relocation of FS incumbents – one for the 2110-2150 MHz band, one for the 2160-2175 MHz band, and one for the 2175-2180 MHz band. In the case of paired microwave links, an AWS licensee will only be obligated to relocate those links in bands for which the sunset date has not yet passed.

[200] *AWS Fifth Notice* at ¶ 34 (citing *AWS Sixth R&O*, 19 FCC Rcd at 20754, ¶ 76).

[201] We note that this spectrum also includes the 2180-2200 MHz band, in which MSS licensees are responsible for the relocation of FS incumbents. Because the mandatory negotiation periods have already ended for licensees in the 2180-2200 MHz band, our decision to implement individual mandatory negotiation periods in the bands that will host new AWS licensees does not affect the negotiation or relocation process for licensees in the 2180-2200 MHz band. *See* 47 C.F.R. § 101.69(e).

[202] This distinction is because when the *Emerging Technologies* relocation rules were first adopted, fixed microwave services in the spectrum were regulated under Parts 21, 22, and 94, dealing with Common Carrier fixed point-to-point, fixed services supporting Paging and Radiotelephone, and Private Operational point-to-point, respectively. In 1996, the Commission merged the rules regulating Common Carrier and Private Operational services in Part 101.

[203] *See* Amendment of Part 22 of the Commission's Rules to Benefit the Consumers of Air-Ground Telecommunications Services, WT Docket No. 03-103, Biennial Regulatory Review--Amendment of Parts 1, 22, and 90 of the Commission's Rules, Amendment of Parts 1 And 22 of the Commission's Rules To Adopt Competitive Bidding Rules For Commercial And General Aviation Air-Ground Radiotelephone Service, WT Docket No. 05-42, *Report and Order and Notice of Proposed Rulemaking*, 20 FCC Rcd 4403 at ¶ 159 (2005). In contrast, Part 101 FS licensees in *Emerging Technologies* spectrum are not currently prohibited from renewing their licenses.

[204] *See* CTIA Comments at 13-14; Comsearch Comments at 8.

62. Thus, we adopt our proposal to apply the most current *Emerging Technologies* relocation procedures to Part 22 licensees, and will modify Part 22 to align the relocation procedures in Part 101 to the AWS relocation of Part 22 FS licensees in the 2110-2130 MHz and 2160-2180 MHz bands. We reject, however, CTIA's request that we should not allow Part 101 licensees to renew their licenses, as is currently the case for Part 22 FS licensees.[205] We did not propose to prohibit Part 101 licensees from renewing their licenses, and an evaluation of whether the rationale for not renewing Part 22 FS licenses should be applied to Part 101 licenses in order to promote consistent regulatory treatment is beyond the record and scope of this proceeding. We do note, however, that all FS licenses operating in reallocated bands, regardless of whether they are licensed under Part 22 or Part 101, remain subject to the applicable relocation procedures in effect for the band, including the sunset date at which existing operations become secondary to new entrants. We also note that, pursuant to Section 553(b)(B) of the Administrative Procedure Act, we are amending our relocation rules for FS licensees to delete references to outdated requirements.[206]

63. Finally, we clarify that our decision to set forth the appropriate relocation procedures that new AWS entrants will follow when relocating FS incumbents in the 2160-2175 MHz band does not substitute for the establishment of service rules for the band (or a larger spectrum block that encompasses this band).[207] We continue to anticipate the issuance of a separate Notice of Proposed Rulemaking that will examine specific licensing and service rules that will be applicable to new AWS entrants in the band.

C. Cost-sharing

64. In 1996, the Commission adopted a plan to allocate cost-sharing obligations stemming from the relocation of incumbent FS facilities then operating in the 1850-1990 MHz band (1.9 GHz band) by new broadband PCS licensees.[208] This cost-sharing regime created a process by which PCS entities that incurred costs for relocating microwave links could receive reimbursement for a portion of those costs from other PCS entities that also benefit from the spectrum clearance. In the *Microwave Cost Sharing* proceeding, the Commission stated that the adoption of a cost-sharing regime serves the public interest because it (1) distributes relocation costs more equitably among the beneficiaries of the relocation; (2) encourages the simultaneous relocation of multi-link communications systems; and (3) accelerates the relocation process, promoting more rapid deployment of new services.[209] In this section, we discuss the adoption of cost-sharing rules to identify the reimbursement obligations for AWS and MSS entrants benefiting from the relocation of incumbent FS operations in the 2110-2150 MHz and 2160-2200 MHz bands and AWS entrants benefiting from the relocation of BRS incumbents in the 2150-2160/62 MHz band.

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[205] CTIA Comments at 13-14.

[206] *See* 5 U.S.C. § 553(b)(B). We find good cause that notice and comment are unnecessary in this case because the requirements and references that are being deleted herein relate to the relocation and cost sharing obligations of PCS entrants to FS licensees in the 1850-1990 MHz band. These obligations terminated as of April 4, 2005. *See* "Broadband PCS Entities and Fixed Microwave Services Licensees Reminded of April 4, 2005 Sunset of Relocation Cost Compensation and Microwave Cost Sharing Rules," *Public Notice*, 20 FCC Rcd 5141 (WTB 2005).

[207] *See* ArrayComm Reply at 6 (setting forth its interest in the provision of TDD technologies in the band by new entrants, and expressing concern that the *AWS Fifth Notice* served to propose the adoption of service rules).

[208] *See supra* note 24.

[209] *See Microwave Cost Sharing First R&O and FNPRM*, 11 FCC Rcd 8825, at 8861, ¶ 71; Amendment to the Commission's Rules Regarding a Plan for Sharing the Costs of Microwave Relocation, WT Docket No. 95-157, *Notice of Proposed Rulemaking*, 11 FCC Rcd 1923, 1931, ¶ 16 (1995) ("*Microwave Cost Sharing Notice*"); *see also AWS Fifth Notice*, 20 FCC Rcd at 15885, ¶ 43.

1. Relocation of Incumbent FS Licensees in the 2110-2150 MHz and 2160-2200 MHz Bands

65. Currently, FS incumbents operate microwave links in the 2110-2150 MHz and 2160-2200 MHz bands, mostly composed of paired channels in the lower and upper bands (*i.e.*, 2110-2130 MHz with 2160-2180 MHz and 2130-2150 MHz with 2180-2200 MHz). Section 101.82 of the Commission's Part 101 relocation rules provides that when a new licensee in either of these bands relocates an incumbent paired FS link with one path in the 2110-2150 MHz band and the paired path in the 2160-2200 MHz band, the new licensee is entitled to reimbursement of fifty percent of its relocation costs from any subsequently entering new licensee which would have been required to relocate the same FS link, subject to a monetary "cap."[210] The *AWS Fifth Notice* explained that this rule applied to both new AWS licensees in the 2110-2150 MHz and 2160-2180 MHz bands, as well as to MSS licensees in the 2180-2200 MHz band.[211] We discuss AWS and MSS issues separately, below.

a. Cost Sharing between AWS Licensees

66. *Background.* In the *AWS-2 Service Rules NPRM*, the Commission sought comment on whether it should adopt formal procedures for apportioning relocation costs among multiple AWS licensees in the 2110-2150 MHz and 2175-2180 MHz bands and, in particular, whether it should apply the cost-sharing rules in Part 24 that were used by new PCS licensees when they relocated incumbent FS links in the 1850-1990 MHz band.[212] In the *AWS Fifth Notice*, the Commission sought comment on the same issues in the 2160-2175 MHz band[213] and whether AWS licensees in the 2160-2175 MHz band should be subject to the same cost-sharing regime as it adopts to govern the relocation of FS incumbents in the 2110-2150 MHz and 2175-2180 MHz bands.[214]

67. In the *AWS Fifth Notice,* the Commission explained the details of how the Part 24 cost-sharing plan operated in the context of the relocation of FS microwave links from the 1.9 GHz band by PCS entrants.[215] Under the Part 24 plan, new entrants that incurred costs relocating an FS link were eligible to receive reimbursement from other entrants that also benefited from that relocation.[216] Relocators could submit their reimbursement claims to one of the private not-for-profit clearinghouses

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[210] *See* 47 C.F.R. § 101.82. The rule recognizes that although a new licensee may not receive a direct benefit by relocating a link in one of the bands (*e.g.*, it is licensed to operate in one band but not both), it may relocate a paired link in that band in order to satisfy its obligation to provide comparable facilities to the incumbent FS licensee. Thus, the new licensee is entitled to reimbursement (50 percent of all reimbursable costs up to the cap) by another new licensee for relocating a link that otherwise it did not need to relocate to address interference. *Id.*

[211] *See AWS Fifth Notice,* 20 FCC Rcd at 15886, ¶ 44. Under the rule, reimbursement obligations are determined using the same interference analysis that governs relocation obligations. Moreover, the rule does not contemplate the use of a clearinghouse for administration.

[212] *See* Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz Bands; Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, WT Docket No. 04-356, WT Docket No. 02-353, *Notice of Proposed Rulemaking*, 19 FCC Rcd 19263, 19282-84, ¶¶ 46-49 (2004) ("*AWS-2 Service Rules NPRM*").

[213] *See AWS Fifth Notice*, 20 FCC Rcd at 15886, ¶ 45.

[214] *See id*.

[215] *See AWS Fifth Notice*, 20 FCC Rcd at 15886-87, ¶ 46. The pertinent rule provisions are set forth at Sections 24.239-24.253 of the Commission's Rules.

[216] The Part 24 cost sharing rules that applied to PCS entrants relocating FS incumbents from the 1850-1990 MHz band terminated on April 4, 2005. *See* 47 C.F.R. § 24.253; "Broadband PCS Entities and Fixed Microwave Services Licensees Reminded Of April 4, 2005 Sunset of Relocation Cost Compensation and Microwave Cost Sharing Rules," *Public Notice,* 20 FCC Rcd 5141 (WTB 2005). Our overview of the plan here thus describes how the plan operated prior to the sunset date.

designated by the Wireless Telecommunications Bureau ("WTB") to administer the plan.[217] Specifically, new entrants filing a prior coordination notice (PCN)[218] were also required to submit their PCN to the clearinghouse(s) before beginning operations.[219] After receiving the PCN, a clearinghouse with a reimbursement claim on file determined whether the new entrant benefited from the relevant relocation using a Proximity Threshold Test.[220] Under the Proximity Threshold Test, a new entrant triggered cost-sharing obligations for a microwave link if all or part of the microwave link was initially co-channel with the PCS band(s) of any PCS entrant, a PCS relocator had paid to relocate the link, and the new PCS entrant was prepared to start operating a base station within a specified geographic distance of the relocated link.[221] The clearinghouse then used the cost-sharing formula specified in Section 24.243 of the Commission's Rules to calculate the amount of the beneficiary's reimbursement obligation.[222] This amount was subject to a cap of $250,000 per relocated link, plus $150,000 if a new or modified tower was required.[223] The beneficiary was required to pay reimbursement within 30 days of notification, with an equal share of the total going to each entrant that previously contributed to the relocation.[224] Payment

[217] *See Microwave Cost Sharing First R&O and FNPRM*, 11 FCC Rcd at 8878, Appendix A, ¶ 3; 47 C.F.R. § 24.243.

[218] *See* 47 C.F.R. § 101.103(d).

[219] *See* 47 C.F.R. § 24.249(a).

[220] *See* 47 C.F.R. § 24.247.

[221] *See id.*

[222] *See* 47 C.F.R. §§ 24.243, 24.249. The cost sharing formula calculates a benefiting entrant's reimbursement obligation based on the total "actual" costs of relocation, the number of prior entrants that would have interfered with the link, and the number of months that have passed since the relocator first obtained reimbursement rights. 47 C.F.R. § 24.243. The number of months is factored in to depreciate the reimbursement obligation of new entrants over time, ensuring that early entrants, who receive a greater benefit from the relocation, also pay a larger share of the relocation costs. We note that "depreciation" for the purposes of cost sharing is to be distinguished from "depreciation" as used in the context of accounting for the cost of a microwave incumbent's relocation, *i.e.,* depreciated cost or full replacement cost.

We also note that the *pro rata* cost sharing formula does not apply to a new entrant that relocates a link fully outside its market area or licensed frequency band. 47 C.F.R. § 24.245(c). In that circumstance, the relocator is entitled to 100 percent reimbursement of its costs from the next beneficiary without depreciation, subject to the reimbursement cap. *See Microwave Cost Sharing First R&O and FNPRM,* 11 FCC Rcd at 8884-5, Appendix A, ¶¶ 16-17. However, when the microwave link in question involves a paired transmit/receive channel system, with two separate paths in upper and lower spectrum bands, the full reimbursement rule may not be applicable. If the relocator is a new entrant in either of the paired channel frequency bands or market areas, *both* paths of the incumbent link will not be *fully outside* the relocator's licensed frequency band or geographic license area. Section 24.243 describes an "interfering microwave link" as one that is in "all or part" of the relocator's market area and frequency band. Therefore, a new entrant that interferes with one of the paths of the link will trigger relocation for that particular path but, to provide comparable facilities to the incumbent microwave operator, the entrant will nevertheless have to relocate both paths of the link. Under these circumstances, *pro rata* reimbursement under the Part 24 cost sharing plan would be available for the relocator of the link.

[223] *See* 47 C.F.R § 24.243(b). We note that this cap applied only to reimbursement paid to an initial relocator by a subsequent new licensee beneficiary; it did not operate to limit an initial relocator's responsibility for the costs of relocation, which was not subject to any cap. Self-relocating FS incumbents were also permitted to obtain reimbursement from benefiting entrants under the plan, subject to the same reimbursement cap. *See* 47 C.F.R. § 24.243.

[224] *See* 47 C.F.R. § 24.243; *Microwave Cost Sharing First R&O and FNPRM*, 11 FCC Rcd at 8880, Appendix A, ¶ 6.

obligations and reimbursement rights under the Part 24 cost-sharing plan can be superceded by a privately negotiated cost-sharing arrangement between licensees.[225]

68. Disputes over cost-sharing obligations under the rules were addressed, in the first instance, by the clearinghouse.[226] If the clearinghouse was unable to resolve the dispute, parties were encouraged to pursue alternative dispute resolution (ADR) alternatives such as binding arbitration.[227]

69. In the *AWS Fifth Notice,* the Commission explained that adopting the Part 24 cost-sharing plan for AWS entrants that relocate FS incumbents would have many benefits.[228] The Commission therefore proposed to adopt a cost-sharing plan for relocation of FS incumbents in the 2160-2175 MHz band based on the Part 24 plan and sought comment on this proposal.[229] In addition, the Commission also noted that it had sought comment on whether it should adopt the Part 24 plan to apportion relocation costs among multiple AWS licensees in the 2110-2150 MHz and 2175-2180 MHz bands.[230] Although the Commission recognized that Part 24 rules could be applied to the relocation of FS incumbents in the 2.1 GHz band without substantial changes, the *AWS Fifth Notice* nevertheless sought comment on whether some modifications to the Part 24 cost-sharing rules were appropriate, including specific changes suggested by PCIA in response to the *AWS-2 Service Rules NPRM*.[231] The Commission also sought comment on the procedures and qualifications criteria that should be used to select one or more private not-for-profit clearinghouses to administer the cost-sharing rules.[232] In addition, the Commission sought comment on the rules that should govern the operation of the clearinghouse(s).[233]

70. *Comments.* Most commenting parties support the adoption of the Part 24 cost-sharing framework for AWS entrants that benefit from the relocation of FS incumbents in the 2.1 GHz band.[234]

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[225] For a more detailed discussion of the PCS cost sharing plan, see the *Microwave Cost Sharing* proceeding cited at note 208, *supra*.

[226] *See* 47 C.F.R. § 24.251.

[227] *See id.*

[228] *See AWS Fifth Notice,* 20 FCC Rcd at 15887, ¶ 47.

[229] *See AWS Fifth Notice*, 20 FCC Rcd at 15888, ¶ 47.

[230] *See AWS Fifth Notice*, 20 FCC Rcd at 15886, ¶ 45 (*citing AWS-2 Service Rules NPRM,* 19 FCC Rcd at 19282-84 ¶¶ 46-49). The Commission invited parties that previously filed comments in response to the *AWS-2 Service Rules NPRM* to incorporate those comments by reference in the instant docket. *See id.* at n.111.

[231] *See AWS Fifth Notice*, 20 FCC Rcd at 15888, ¶ 48. PCIA suggested that, in establishing a cost sharing plan for AWS relocation of FS, the Commission should modify the Part 24 plan by (1) establishing a rule requiring licensing data to be filed by all entities; (2) mandating that parties are required to act in good faith in connection with their responsibilities under the cost sharing plan; (3) providing that reasonable interest charges can be applied to cost sharing obligations; (4) creating an explicit mechanism for expedited appeal to the Commission from a disputed clearinghouse determination; and (5) according weight to the determinations of the clearinghouse in such an appeal. *See id.* (*citing* PCIA-The Wireless Infrastructure Association (PCIA) Comments, WT Docket No. 02-353 (filed Dec. 8, 2004) (PCIA Comments to *AWS-2 Service Rules NPRM*) at 5-6).

[232] *See AWS Fifth Notice*, 20 FCC Rcd at 15888, ¶ 49. The Part 24 plan delegates authority to WTB to assign the administration of the cost sharing rules to one or more private not-for-profit clearinghouses. *See* 47 C.F.R. § 24.241.

[233] *See AWS Fifth Notice*, 20 FCC Rcd at 15888, ¶ 49.

[234] *See, e.g.,* PCIA Comments at 1-4; T-Mobile Comments at 2; Comsearch Comments at 2-3; CTIA Comments at 14. T-Mobile contends that there is broad support for the adoption of cost sharing policies based on the policies implemented in the 1.9 GHz band relocation proceedings and recommends that the Commission model the cost sharing procedures adopted in this proceeding after the 1.9 GHz band rules. *See* T-Mobile Reply at 2-3, 9-10. Similarly, PCIA states that the Commission should apply a cost sharing framework for AWS based upon the model used for Broadband PCS in the 1.9 GHz band. *See* PCIA Comments at 1-4. CTIA also supports the use of cost sharing, consistent with the prior 1.9 GHz band rules, in the 2.1 GHz band. *See* CTIA Comments at 14.

Several commenters, however, request that the Commission clarify specific aspects of the Part 24 cost-sharing rules.[235] For example, T-Mobile and PCIA urge the Commission to provide further certainty to relocating entities regarding what costs are compensable under Section 24.243(b) of the Commission's Rules.[236] A few commenting parties also propose specific modifications to the Part 24 clearinghouse rules. T-Mobile, for example, suggests that the Commission modify the rules pertaining to link registrations and site filings with the clearinghouse to promote efficient resolution of cost-sharing claims.[237] In particular, T-Mobile proposes that the Commission adopt a blanket rule requiring all entities constructing new sites or modifying existing sites to file site data in the form of a PCN with the clearinghouse and that the Commission also impose a continuing obligation on those entities to maintain the accuracy of the data on file with the clearinghouse.[238] Similarly, PCIA states that all licensees should be required to file data with the clearinghouse for all construction sites within 30 days of turning on any fixed base station at commercial power.[239] According to PCIA and T-Mobile, such a rule is necessary to address past instances where the Part 24 clearinghouse experienced difficulties obtaining PCN data from licensees that conducted their own interference studies to support their contention that, even though they fell within the Proximity Threshold Box, they nevertheless were not required to file PCNs with the clearinghouse because the links they would have interfered with had already been relocated.[240]

71. PCIA and T-Mobile contend that the presence of a new entrant's site within the Proximity Threshold Box, regardless of the potential for actual interference, should trigger a cost-sharing obligation.[241] T-Mobile and PCIA believe this policy should apply regardless of whether the site actually pre-dated the relocation because the new entrant will nevertheless benefit from the subsequent relocation.[242] According to PCIA, if a new entrant operates in a manner protecting an existing incumbent and the incumbent is then relocated, the pre-existing new entrant still benefits from the relocation and cost sharing is therefore appropriate.[243] In addition, PCIA and T-Mobile propose that the Commission clarify that a new entrant only may trigger a cost-sharing obligation for a relocated link once per license,

[235] *See* T-Mobile Comments at 4-9; T-Mobile Reply at 6-7; PCIA Comments at 2-8; PCIA Reply at 5-6**.**

[236] *See, e.g.,* T-Mobile Comments at 7-9; Comments at 7-8; PCIA Reply at 6. Specifically, T-Mobile contends that cash relocation payments should be compensable costs for purposes of cost sharing. *See* T-Mobile Comments at 7-8. T-Mobile also requests that the Commission clarify how costs involving alternative facilities should be documented for cost sharing and what constitutes prohibited "cost averaging" under the Part 24 rules. *See* T-Mobile Comments at 8; *see also* PCIA Comments at 7-8; PCIA Reply at 6 (asking the Commission to clarify that a rational division of non-link specific costs among several links relocated under a single contract is not prohibited "cost averaging").

[237] *See* T-Mobile Comments at 4-6.

[238] *See* T-Mobile Comments at 6.

[239] *See* PCIA Reply at 5.

[240] PCIA contends that the requirement to file such data with the clearinghouse needs to be specifically stated because such a requirement is currently contingent on whether a PCN for the site is required pursuant to 47 C.F.R. § 101.103(d). *See* PCIA Comments at 5-6. PCIA notes that, under 47 C.F.R. § 101.103(d), a PCN is required only if the facilities will affect or be affected by the proposed new site; thus the requirement to file a PCN with the clearinghouse would arguably not be triggered if all of the microwave links in an area have already been relocated. *See* PCIA Comments at 5, n.4; *see also* T-Mobile Comments at 6 (explaining that, because the requirement to file data was premised on PCNs, some licensees argued that, because they believed a site caused no interference, no PCN, and thus, no filing with the clearinghouse, was needed).

[241] *See* T-Mobile Comments at 5-6; PCIA Comments at 5-6; PCIA Reply at 6 (*citing* T-Mobile Comments at 5).

[242] *See id*.

[243] *See* PCIA Comments at 5-6; PCIA Reply at 6 (*citing* T-Mobile Comments at 5).

regardless of the size of the license.[244] PCIA also asks the Commission to adopt a rule stating that, once triggered, deconstruction of a site does not relieve an entity of cost-sharing requirements – an obligation, once triggered, can not be "de-triggered."[245] However, PCIA does suggest that the Commission allow, in cases of bankruptcy or disputes, subsequent triggers to reduce their liabilities to other cost-sharing participants by "paying around" a prior trigger.[246]

72. PCIA and T-Mobile both contend that relocating entities should not be required to file link registrations within 10 days of relocation[247] because the depreciation factor that is calculated into the Part 24 cost-sharing formula[248] provides them with a market incentive to promptly register to minimize the amount of deprecation that would otherwise accrue with the passage of time.[249] In addition, PCIA and T-Mobile argue that the Commission should not require a clearinghouse to maintain all documentary evidence.[250] Rather, PCIA and T-Mobile propose that the Commission require carriers to provide only uniform cost data at the time of filing with the clearinghouse, with supporting documentation to be made available to subsequent triggers upon request.[251]

73. In addition, PCIA and T-Mobile request that the Commission establish certain procedures to govern those instances where disagreements arise over cost-sharing obligations. Specifically, PCIA proposes that the Commission define what constitutes "good faith" in the context of cost sharing, especially where an entrant that subsequently triggers a cost-sharing obligation complains that the initial

[244] *See* T-Mobile Comments at 5 (contending that the Commission should definitively rule that a new entrant may trigger a cost sharing obligation for a relocated link only once per license, regardless of the size of the license); PCIA Comments at 6 (same); PCIA Reply at 6. According to PCIA, "numerous disputes arose as to why larger area licensees did not trigger an obligation for each BTA where sites were in the proximity box." PCIA Comments at 6. Therefore, it contends that the Commission should categorically affirm the "one license – one trigger" rule. *See id.*

[245] *See* PCIA Comments at 5-6; PCIA Reply at 6. An entrant triggering a cost sharing obligation, pursuant to the Commission's Rules, would be required to fulfill that obligation in full and not be permitted to avoid that obligation by deconstructing its facilities.

[246] *See* PCIA Comments at 7; PCIA Reply at 6. PCIA explains its proposal with a hypothetical example that presumes "Relocator A pays $X to relocate a microwave link, benefits from the relocation, and that link is triggered by Carrier B, Carrier B would owe Relocator A $X/2, not considering depreciation. If the link is then triggered by Carrier C, Carrier C would owe (not including depreciation), $X/6 to both Relocator A and Carrier B, with the net result that each pays $X/3." PCIA Comments at 7. According to PCIA, "[i]f Carrier B files for bankruptcy, it is arguable that, under the bankruptcy laws, Carrier B may have its debt of $X/2 to Relocator A extinguished, yet still legally pursue collection of $X/6 from Carrier C (as occurred in the 1.9 GHz band)." *Id.* Therefore, PCIA contends that the Commission should "clarify that carriers are permitted to pay around carriers in financial distress and commensurately reduce their obligations. Thus, in the example above, Carrier C should be permitted to pay Relocator A $X/6 as well as the $X/6 owed to Carrier B, thus reducing Carrier B's obligation to Relocator A to $X/3. This results in a far more equitable distribution of sharing payments." *Id.*

[247] *See* 47 C.F.R. § 24.245(a), (b).

[248] *See* 47 C.F.R. §§ 24.243, 24.249. The cost sharing formula calculates a benefiting entrant's reimbursement obligation based on the total "actual" costs of relocation, the number of prior entrants that would have interfered with the link, and the number of months that have passed since the relocator first obtained reimbursement rights. *See* 47 C.F.R. § 24.243. The number of months is factored in to depreciate the reimbursement obligation of new entrants over time, ensuring that early entrants, who receive a greater benefit from the relocation, also pay a larger share of the relocation costs.

[249] *See* T-Mobile Comments at 6-7; PCIA Comments at 6; PCIA Reply at 6.

[250] *See* PCIA Comments at 7; T-Mobile Comments at 7.

[251] *See* PCIA Comments at 7; T-Mobile Comments at 7. Under this approach, licensees themselves, not the clearinghouse, will be responsible for maintaining documentation of cost issues, with link registrants required to maintain documentation until the sunset date. *See* T-Mobile Comments at 4.

party that undertook the relocation overpaid.[252] According to PCIA, the Commission should also explicitly state in the rules that a clearinghouse has the authority to order the payment of a cost-sharing amount from one entity to another.[253] To discourage disputes designed to defer cost-sharing payments, T-Mobile asks the Commission to approve the charging of interest on cost-sharing obligations starting 60 days after the invoice date.[254] Moreover, both PCIA and T-Mobile propose that the Commission adopt a procedure to issue expedited rule interpretations in the event that cost sharing and relocation disputes arise.[255] PCIA argues that an expedited procedure would avoid lengthy disputes.[256] PCIA therefore contends that the Commission should establish a process whereby a clearinghouse will be able to refer a question of interpretation to the Commission and promptly receive a public response, thereby lessening the potential for disputes.[257]

74. *Discussion.* We believe that adopting rules based on the Part 24 cost-sharing plan for AWS entrants that benefit from the relocation of FS incumbents by other AWS entrants would accelerate the relocation process and promote rapid deployment of new advanced wireless services in the 2.1 GHz band. In the *AWS Fifth Notice*, the Commission noted that the Part 24 plan was devised to accommodate new cellular type systems licensed by geographic areas and incumbent FS point-to-point operations.[258] The relocation of FS by AWS licensees presents very similar circumstances; further, the Part 24 plan has a proven record of success.[259] Moreover, the Commission has recognized that refinements to the details of the plan, made in response to numerous questions that have been addressed since the Part 24 plan's inception in 1996, reduce the likelihood that further clarification will be necessary if the Commission adopts this regime for new AWS entrants.[260] For these reasons, the Commission explained in the *AWS Fifth Notice* that it expected the adoption of these rules to expedite the relocation of FS incumbents and the introduction of new services.[261] We continue to believe that adopting the Part 24 cost-sharing rules, with minor modifications, serves the public interest because it will distribute relocation costs more equitably among the beneficiaries of the relocation, encourage the simultaneous relocation of multi-link communications systems, and accelerate the relocation process, thereby promoting more rapid deployment of new services.

75. We also find substantial support in the record for applying a cost-sharing framework for AWS in the 2.1 GHz band that is based upon the Part 24 plan used for Broadband PCS.[262] In the *AWS*

[252] *See* PCIA Comments at 7-8; PCIA Reply at 6. PCIA also proposes that the Commission clarify that relocatees retain the discretion to decide how to use their relocation funds and need not submit receipts or proof of expenditures. *See* PCIA Comments at 7-8; PCIA Reply at 6; *see also* T-Mobile Comments at 8 (arguing that relocating entities are not required to document, beyond the submission of a relocation contract, how the incumbent actually uses relocation funds).

[253] *See* PCIA Comments at 5; PCIA Reply at 5.

[254] *See* T-Mobile Comments at 9.

[255] *See* T-Mobile Comments at 5; PCIA Comments at 4.

[256] *See* PCIA Comments at 4.

[257] *See id.*

[258] *See AWS Fifth Notice*, 20 FCC Rcd at 15887-88, ¶ 47.

[259] The Commission has found that the Part 24 cost sharing rules have promoted "an efficient and equitable relocation process . . . ." *See Microwave Cost Sharing Memorandum Opinion and Order on Reconsideration*, 15 FCC Rcd at 14003, ¶ 8.

[260] *See AWS Fifth Notice*, 20 FCC Rcd at 15888, ¶ 47.

[261] *See id.*

[262] *See, e.g.,* PCIA Comments at 1-4; T-Mobile Comments at 2; Comsearch Comments at 2-3; CTIA Comments at 14.

Fifth Notice, the Commission emphasized that "it is desirable to harmonize the FS relocation procedures among the various AWS designated bands to the greatest extent feasible."[263] The Commission specifically noted that relocation procedures that are consistent throughout the band can be expected to foster a more efficient rollout of AWS and minimize confusion among the parties, and thereby serve the public interest.[264] After thoroughly reviewing the record,[265] we conclude that the Commission should apply the Part 24 cost-sharing rules, as herein modified, to the instant relocation of FS incumbents by AWS entrants in the 2.1 GHz band. We also incorporate the Part 24 cost-sharing provisions for voluntary self-relocating FS incumbents to obtain reimbursement from those AWS licensees benefiting from the self-relocation.[266] Incumbent participation will provide FS incumbents in the 2.1 GHz band with the flexibility to relocate themselves and the right to obtain reimbursement of their relocation costs, adjusted by depreciation, up to the reimbursement cap, from new AWS entrants in the band.[267] We also find that incumbent participation will accelerate the relocation process by promoting system wide relocations and result in faster clearing of the 2.1 GHz band, thereby expediting the deployment of new advanced wireless services to the public.[268] Therefore, we will require AWS licensees in the 2.1 GHz band to reimburse FS incumbents that voluntarily self-relocate from the 2110-2150 MHz and 2160-2200 MHz bands and AWS licensees will be entitled to *pro rata* cost sharing from other AWS licensees that also benefited from the self-relocation. Accordingly, subject to the clarifications and modifications explained below, we adopt rules in Appendix A based on the formal cost-sharing procedures codified in Part 24 of our rules to apportion relocation costs among AWS licensees in the 2110-2150 MHz, 2160-2175 MHz, and 2175-2180 MHz bands.[269]

76. As noted above, we find that the record in this proceeding warrants certain modifications to the Part 24 cost-sharing plan that we believe will help distribute cost-sharing obligations equitably among the beneficiaries of the relocation and also encourage and accelerate the relocation process. Specifically, with respect to cost-sharing obligations on MSS operators for FS incumbent self-relocation in the 2180-2200 MHz band, we recognize that the Commission previously declined to impose cost sharing on MSS operators for voluntary self-relocation by FS incumbents in that band.[270] Accordingly, for FS incumbents that elect to self-relocate their paired channels in the 2130-2150 MHz and 2180-2200

[263] *AWS Fifth Notice,* 20 FCC Rcd at 15883, ¶ 34.

[264] *See id.*

[265] As noted above, the *AWS Fifth Notice* invited parties that previously filed comments in response to the *AWS-2 Service Rules NPRM* to incorporate those comments by reference. *See AWS Fifth Notice,* 20 FCC Rcd at 15886, n.111. We have taken comments filed in WT Docket No. 02-353 addressing this issue fully into consideration in concluding that the goals of this proceeding and the public interest would best be served by adopting cost sharing rules that will be uniformly applied to AWS entrants in the 2110-2150 MHz, 2160-2175 MHz, and 2175-2180 MHz bands. *See, e.g.,* T-Mobile Comments, WT Docket No. 02-353 (filed Dec. 8, 2004); PCIA Comments to *AWS-2 Service Rules NPRM*; CTIA Reply Comments, WT Docket No. 02-353 (filed Feb. 8, 2005).

[266] *See, e.g.*, 47 C.F.R. §§ 24.239, 24.245.

[267] *See Microwave Cost Sharing Second R&O*, 12 FCC Rcd at 2717-8, ¶¶ 25-28; 47 C.F.R. § 24.243.

[268] *See Microwave Cost Sharing Second R&O*, 12 FCC Rcd at 2717-18, ¶¶ 25-29.

[269] In doing so, we note that service rules have not yet been adopted in the 2160-2175 MHz band, which is part of a twenty megahertz band of spectrum that has been allocated and designated for AWS. *See* Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, ET Docket No. 00-258, *Eighth Report and Order*, 20 FCC Rcd 15866 (2005).

[270] *See MSS Third R&O*, 18 FCC Rcd at 23673, ¶ 73 (a reimbursement scheme for voluntary self-relocation was not envisioned by the MSS/FS relocation plan and thus a cost sharing plan for MSS reimbursing FS incumbents who voluntarily relocate was not warranted). The cost sharing obligations for MSS downlink space-to-Earth operations in the 2180-2200 MHz band are governed by 47 C.F.R. § 101.82.

MHz bands (with AWS in the lower band and MSS in the upper band), we will impose cost-sharing obligations on AWS licensees but not on MSS operators. Where a voluntarily relocating microwave incumbent relocates a paired microwave link with paths in the 2130-2150 MHz and 2180-2200 MHz bands, it is entitled to partial reimbursement from the first AWS beneficiary, equal to fifty percent of its actual costs for relocating the paired link, or half of the reimbursement cap, whichever is less. This amount is subject to depreciation. For purposes of applying the cost-sharing formula relative to other AWS licensees that benefit from the self-relocation, the fifty percent attributable to the AWS entrant shall be treated as the entire cost of the link relocation,[271] and depreciation shall run from the date on which the clearinghouse issues the notice of an obligation to reimburse the voluntarily relocating microwave incumbent.

77. We also decline commenters' suggestion[272] that we eliminate in its entirety the Part 24 requirement that a relocator or self-relocating microwave incumbent file documentation of its relocation agreement or discontinuance of service to the clearinghouse. We believe that continuing to require relocators or self-relocators to submit such documentation within a certain time period expedites the reimbursement process. We do, however, believe that extending the deadline for such filings from 10 business days to 30 calendar days reasonably balances the concerns raised by commenters and the Commission's goal of expediting the clearing of the 2.1 GHz band.[273] We will, therefore, require AWS relocators in the 2.1 GHz band to file their reimbursement requests with the clearinghouse within 30 calendar days of the date the relocator signs a relocation agreement with an incumbent. Consistent with the Part 24 approach of imposing the same obligations on self-relocators seeking reimbursement that apply to relocators,[274] we will also require self-relocating microwave incumbents in the 2.1 GHz band to file their reimbursement requests with the clearinghouse within 30 calendar days of the date that they submit their notice of service discontinuance with the Commission.

78. We will also require all AWS licensees in the 2.1 GHz band that are constructing a new site or modifying an existing site to file site-specific data with the clearinghouse prior to initiating operations for a new or modified site.[275] The site data must provide a detailed description of the proposed site's spectral frequency use and geographic location.[276] We will also impose a continuing duty on those entities to maintain the accuracy of the data on file with the clearinghouse. We find that such an approach will ensure fairness in the process and preclude new AWS entrants from conducting independent interference studies for the purpose or effect of evading the requirement to file site-specific data with the clearinghouse prior to initiating operations.[277]

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[271] *See AWS Fifth Notice*, 20 FCC Rcd at 15889, ¶ 50, n.129.

[272] T-Mobile Comments at 6-7; PCIA Comments at 6; PCIA Reply at 6.

[273] *See, e.g., Microwave Cost Sharing First R&O and FNPRM*, 11 FCC Rcd at 8827, ¶ 1, 8861-2, ¶ 71 (cost sharing plan will promote expeditious clearing of the band in an equitable and efficient manner, which benefits microwave incumbents as well as PCS licensees); *Microwave Cost Sharing Second R&O*, 12 FCC Rcd at 2708, ¶ 6, 2716, ¶ 25 (allowing incumbents to self-relocate and obtain reimbursement rights will further expedite clearing of the band by giving microwave incumbents the option of avoiding time-consuming negotiations).

[274] *See Microwave Cost Sharing Second R&O*, 12 FCC Rcd at 2717, ¶ 26.

[275] *See* PCIA Reply at 5.

[276] The site-specific data must at least include the applicant's name and address, the name of the transmitting base station, the geographic coordinates corresponding to that base station, the frequencies and polarizations to be added, changed, or deleted, and the emission designator. Because this information is included in the prior coordination notice (PCN) required by 47 C.F.R. § 101.103(d), entities can satisfy the site data filing requirement by submitting their PCN to the clearinghouse instead.

[277] However, we will continue to require entrants and licensees to comply with the coordination requirements set forth in Parts 24, 27, and 101 of the Commission's Rules. *See, e.g.,* 47 C.F.R. § 24.237 (PCS licensees must coordinate their frequency usage with co-channel or adjacent channel FS incumbents before initiating operations (continued….)

79. Utilizing the site-specific data submitted by AWS licensees, the clearinghouse determines the cost-sharing obligations of each AWS entrant by applying the Proximity Threshold Test.[278] We find that the presence of an AWS entrant's site within the Proximity Threshold Box, regardless of whether it predates or postdates relocation of the incumbent, and regardless of the potential for actual interference, will trigger a cost-sharing obligation.[279] Accordingly, any AWS entrant that engineers around the FS incumbent will trigger a cost-sharing obligation once relocation of the FS incumbent occurs.[280] We recognize that the Proximity Threshold Test may limit a licensee's ability to engineer around the transmission of the former microwave link to avoid relocation reimbursement obligations.[281] However, we reiterate that the benefits that the Proximity Threshold Test provides in terms of ease of administration outweigh any burden that use of the test will impose on other entrants that are required to share in the relocation costs.[282] The Proximity Threshold Test is a bright-line test that does not require extensive engineering studies or analyses, and it yields consistent, predictable results by eliminating the variations – and thus disputes – which can be associated with the use of interference standards such as the TIA TSB 10-F.[283] We find that the use of such a bright-line test in this context will expedite the relocation process by facilitating cost-sharing, minimizing the possibility of disputes that may arise through the use of other standards or tests, and encouraging new entrants to relocate incumbent licensees in the first instance.

80. We agree with commenting parties and adopt a rule that precludes entrants that have triggered a cost-sharing obligation, pursuant to the rules adopted herein, from avoiding that obligation by deconstructing or modifying their facilities.[284] We find that such a policy will promote the goals of this proceeding and encourage the relocation of incumbents. Moreover, it will significantly reduce the possibility of disagreements over cost sharing among entrants, thereby expediting the entire process and affording all entrants a level playing field with respect to their business expectations. We do not find, however, that the record in this proceeding demonstrates a need to specifically incorporate the phrase "one trigger-one license" into the triggering language of Section 24.243 of the Commission's Rules. The

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from any base stations); 47 C.F.R. § 27.1131 (all AWS licensees, prior to initiating operations, must coordinate their frequency usage with co-channel and adjacent channel incumbent, Part 101 fixed point-to-point microwave licensees in the 2110-2155 MHz band, in accordance with 47 C.F.R. § 24.237); 47 C.F.R. § 101.103(d) (proposed frequency usage must be prior coordinated with existing licensees).

[278] *See discussion supra* para. 67.

[279] *See, e.g., Microwave Cost Sharing First R&O and FNPRM*, 11 FCC Rcd at 8892-3, Appendix A ¶¶ 32-33 (The Proximity Threshold Test is less expensive and easier to administer than the interference criteria of TIA TSB 10-F because under the test, a PCS base station will either fall inside the reimbursement "box" or out of it.)

[280] Because, as explained below, we are relying on the use of a bright-line test to determine whether an entrant benefits from the relocation of an FS incumbent, AWS licensees have no incentive to "engineer around" an FS incumbent that has already been relocated. In that instance, the AWS entrant will nonetheless trigger a cost sharing obligation pursuant to the Proximity Threshold Test.

[281] In the *Microwave Cost Sharing First R&O*, the Commission explained the benefits of adopting a bright-line test in its decision to move away from the TIA TSB 10-F interference standard toward a more streamlined, simplified process of determining interference for purposes of our cost sharing plan. *See Microwave Cost Sharing First R&O and FNPRM*, 11 FCC Rcd at 8892, Appendix A ¶ 33.

[282] *See Microwave Cost Sharing First R&O and FNPRM*, 11 FCC Rcd at 8892, Appendix A ¶ 33; *see also* 47 C.F.R. § 24.239 (requiring all entrants that benefit from the clearance of spectrum by other entrants to contribute to such relocation costs).

[283] *See, e.g., Microwave Cost Sharing First R&O and FNPRM*, 11 FCC Rcd at 8892, Appendix A ¶ 33.

[284] Once an entrant submits its site-specific data with the clearinghouse and triggers a cost sharing obligation because it is within the Proximity Threshold "box," it is required to pay its cost sharing obligations in full. The "post-trigger" deconstruction or modification of the entrant's facilities will neither eliminate nor mitigate such payment obligations.

rule already explicitly states that the *pro rata* reimbursement formula is based on the number of entities that would have interfered with the link and we do not find that further clarification is required.[285]

81. We also fail to find sufficient support in the record for PCIA's contention that we should allow, in cases of bankruptcy or disputes, subsequent triggers to reduce their liabilities to other cost-sharing participants by "paying around" a prior trigger.[286] Similarly, we reject T-Mobile's proposal that the Commission explicitly approve the charging of interest on cost-sharing obligations starting 60 days after the invoice date.[287] We do not believe that the record supports this request. We also decline to adopt a rule that explicitly states, as suggested by PCIA,[288] that a clearinghouse has the authority to order the payment of a cost-sharing amount from one entity to another.[289] Rather, we intend to use the full realm of enforcement mechanisms available to us to ensure that reimbursement obligations are satisfied.[290] In response to T-Mobile's inquiry regarding the proper method of accounting for recurring charges in reimbursement claims, we clarify that, even if the compensation to the incumbent is in the form of a commitment to pay five years of charges, the relocator is entitled to seek immediate reimbursement of the present value lump sum amount, provided it has entered into a legally binding agreement to pay the charges.[291] The relocator may not seek reimbursement of the present value of future charges that it is not contractually bound to pay.

82. Consistent with precedent,[292] we establish a specific date on which the cost-sharing plans that we adopt here will sunset. We find that the sunset date for cost sharing purposes is the date on which the relocation obligation for the subject band terminates.[293] We realize that the sunset dates for the 2110-2150 MHz, 2160-2175 MHz, 2175-2180 MHz bands may vary among the bands.[294] However, we find that establishing sunset dates for cost sharing purposes that are commensurate with the sunset date for AWS relocation obligations in each band appropriately balances the interests of all affected parties and ensures the equitable distribution of costs among those entrants benefiting from the relocations. We reiterate, however, that AWS entrants that trigger[295] a cost-sharing obligation prior to the sunset date must satisfy their payment obligation in full.

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[285] *See* 47 C.F.R. § 24.243.

[286] *See* PCIA Comments at 7; *see infra,* note 39 (discussing PCIA's proposal).

[287] *See* T-Mobile Comments at 9. Specifically, "T-Mobile suggests that the Commission explicitly approve the charging of interest on cost sharing obligations starting 60 days after the invoice date as long as interest charges conform with the IRS default rate." *Id.*

[288] *See* PCIA Comments at 5; PCIA Reply at 5.

[289] Consistent with the Part 24 rules, entrants will be required to satisfy their cost sharing obligations within 30 days of receiving written notification of the amount due. *See, e.g.,* 47 C.F.R. § 24.249.

[290] *See, e.g., Microwave Cost Sharing First R&O and FNPRM*, 11 FCC Rcd at 8865, ¶ 80.

[291] *See* T-Mobile Comments at 8. Under the FS comparable facilities requirement, a relocator must compensate a relocated incumbent for any increased recurring costs by paying the recurring costs for a five year period, or else paying the present value of these payments in a lump sum using current interest rates. As the compensation for increased recurring charges represents part of the actual costs of relocation, relocators are entitled to seek reimbursement of the compensation from other beneficiaries. *See Microwave Cost Sharing First R&O and FNPRM*, 11 FCC Rcd at 8842, ¶ 31.

[292] *See* 47 C.F.R. § 24.253.

[293] Specifically, in this *Ninth R&O,* for the 2110-2150 MHz, 2160-2175 MHz, and 2175-2180 MHz bands, we establish relocation sunset dates of ten years after the first AWS license is issued in each band. *See supra* ¶¶ 58-60.

[294] For this reason, we clarify that the sunset date(s) for cost sharing purposes is governed by the relocation sunset date(s) for the AWS band(s) in which the relocated FS link(s) was located.

[295] We clarify that a clearinghouse determines when an entrant triggered a cost sharing obligation pursuant to the Proximity Threshold Test adopted herein and explained above. Regardless of the reason, entrants that somehow (continued….)

83. Under Part 24, WTB has delegated authority to assign the administration of the cost-sharing rules to one or more private not-for-profit clearinghouses.[296] As the Commission noted in the *AWS Fifth Notice,* management of the Part 24 cost-sharing rules by third-party clearinghouses has been highly successful.[297] Indeed, the *AWS Fifth Notice* recognized that two commenters on the *AWS-2 Service Rules NPRM* have already expressed interest in becoming clearinghouses for the AWS relocation of FS incumbents in the 2110-2150 MHz and 2175-2180 MHz bands.[298] We therefore adopt the Part 24 clearinghouse rules and delegate to WTB the authority to select one or more entities to create and administer a neutral, not-for-profit clearinghouse to administer the cost-sharing plan for the FS incumbents in the 2.1 GHz band. The selection criteria will be established by WTB. WTB shall issue a Public Notice announcing the criteria and soliciting proposals from qualified parties. Once WTB is in receipt of such proposals, and the opportunity for public comment on such proposals has elapsed, WTB will make its selection. When WTB designates an administrator for the cost-sharing plan, it shall announce the effective date of the cost-sharing rules.

84. We will continue to require participants in the cost-sharing plan to submit their disputes to the clearinghouse for resolution in the first instance. Where parties are unable to resolve their issues before the clearinghouse, parties are encouraged to use expedited ADR procedures, such as binding arbitration, mediation, or other ADR techniques.[299] We decline, however, to institute the procedures suggested by some commenting parties[300] that would permit the clearinghouse to refer requests for declaratory rulings and policy interpretations to the Commission for expedited consideration because we are not convinced that a special procedure is warranted. We do, however, agree with PCIA and T-Mobile that a clearinghouse should not be required to maintain all documentary evidence.[301] Except for the independent third party appraisal of the compensable relocation costs for a voluntarily relocating microwave incumbent[302] and documentation of the relocation agreement or discontinuance of service required for a relocator or self-relocator's reimbursement claim,[303] both of which must be submitted in their entirety, we will require participants in the cost-sharing plan to only provide the uniform cost data requested by the clearinghouse subject to the continuing requirements that relocators and self-relocators maintain documentation of cost-related issues until the sunset date and provide such documentation, upon request, to the clearinghouse, the Commission, or entrants that trigger a cost-sharing obligation. In addition, we will also require that parties of interest contesting the clearinghouse's determination of specific cost-sharing obligations must provide evidentiary support to demonstrate that their calculation is reasonable and made in good faith. Specifically, these parties are expected to exercise due diligence to obtain the information necessary to prepare an independent estimate of the relocation costs in question and to file the independent estimate and supporting documentation with the clearinghouse.[304]

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evade notifying the clearinghouse of the fact that they triggered a cost sharing obligation will nevertheless be responsible for the full payment of their obligation.

[296] 47 C.F.R. § 24.241.

[297] *See AWS Fifth Notice*, 20 FCC Rcd at 15888, ¶ 49.

[298] *See* PCIA Comments to *AWS-2 Service Rules NPRM* at 6-8; CTIA Reply to *AWS-2 Service Rules NPRM* at 12-13.

[299] *See* 47 C.F.R. § 24.251.

[300] *See* T-Mobile Comments at 5; PCIA Comments at 4.

[301] *See* PCIA Comments at 7; T-Mobile Comments at 4.

[302] *See* 47 C.F.R. § 24.245(b).

[303] *See* 47 C.F.R. § 24.245(a)(1)-(2).

[304] We will also continue to utilize the list of compensable costs enumerated in Section 24.243(b) as the starting point for determining reimbursement for incumbent microwave facilities. This is consistent with the Commission's conclusion in the *Microwave Cost Sharing First R&O* that the list "should be illustrative, not exhaustive, because (continued….)

85. We reject PCIA's contention that the Commission should specifically define what constitutes "good faith" in the context of cost sharing.[305] New entrants and incumbent licensees are expected to act in good faith in all matters relating to the cost-sharing process herein established. Although the Commission has generally required "good faith" in the context of parties' participation in negotiations,[306] self-relocating incumbents benefit through their participation in the cost-sharing regime and therefore are expected to act in good faith in seeking reimbursement for recoverable costs in accordance with the Commission's Rules. We find that the question of whether a particular party was acting in good faith is best addressed on a case-by-case basis. By retaining sufficient flexibility to craft an appropriate remedy for a given violation in light of the particular circumstances at hand,[307] we can ensure that any party who violates our good faith requirements, either by acting in bad faith or by filing frivolous or harassing claims of violations, will suffer sufficient penalties to outweigh any advantage it hoped to gain by its violation.[308]

b. Cost Sharing Triggers and Clearinghouse for AWS, MSS/ATC

86. *Background.* Mobile-Satellite Service (MSS) is allocated to the 2180-2200 MHz band. FS links in this band are paired with FS links in the 2130-2150 MHz band, which is designated for AWS. Cost sharing between MSS and AWS licensees in these paired bands is governed by section 101.82. This rule provides that when a new licensee in either of these bands relocates an incumbent paired FS link with one path in one band and the paired path in the other band, the new licensee is entitled to reimbursement of fifty percent of its relocation costs (*i.e.*, the total cost of relocating both paths) subject to a monetary "cap," from any subsequently entering new licensee that would have been required to relocate the same FS link.[309]

87. The Commission adopted relocation rules for MSS that recognize the unique characteristics of a satellite service. For example, unlike a new terrestrial entrant such as AWS that can clear the band on a link-by-link basis, MSS (space-to-Earth) must clear all incumbent FS operations in the 2180-2200 MHz band within the satellite service area if interference will occur.[310] Thus, the relocation obligations and cost sharing among MSS new entrants in the 2180-2200 MHz are relatively straightforward and can function without a clearinghouse or formal cost-sharing procedures.[311]

88. In the *AWS Fifth Notice*, the Commission noted that Section 101.82 establishes a cost-sharing obligation between MSS and AWS that is reasonable and relatively easy to implement, and

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some actual relocation expenses might not fit neatly into one of these categories." *See Microwave Cost Sharing First R&*O, 11 FCC at 8886-7, ¶ 20. Therefore, specific questions as to compensable costs will be addressed on a case-by-case basis through the clearinghouse process enumerated above.

[305] *See* PCIA Comments at 7-8; PCIA Reply at 6.

[306] *See, e.g., Emerging Technologies R&O and MO&O*, 8 FCC Rcd 6589, 6595, ¶¶ 15-16 (1993); *Microwave Cost Sharing First R&O and FNPRM*, 11 FCC Rcd at 8838, ¶¶ 20-22; *MSS Second R&O*, 15 FCC Rcd 12315, ¶ 47.

[307] *See id.*

[308] *See id.*

[309] *See AWS Fifth Notice*, 20 FCC Rcd at 15889, ¶ 50 (*citing* 47 C.F.R. § 101.82). The rule recognizes that although a new licensee may not receive a direct benefit by relocating a link in one of the bands (*e.g.*, it is licensed to operate in one band but not both), it may relocate a paired link in that band in order to satisfy its obligation to provide comparable facilities to the incumbent FS licensee. Thus, the new licensee is entitled to reimbursement (50 percent of all reimbursable costs up to the cap) by another new licensee for relocating a link that otherwise it did not need to relocate to address interference. *Id.*

[310] *Id.*

[311] *See id.* (*citing MSS Second R&O*, 15 FCC Rcd 12315, 12345-47, ¶¶ 95-102 (any subsequently entering licensee that cannot demonstrate that it would not have interfered with the microwave link is required to participate in reimbursing the relocator and depreciation does not apply)).

because it does not depreciate cost-sharing obligations, it provides MSS licensees with additional assurance of cost recovery. Furthermore, the Commission stated that it did not wish to change the relocation and cost-sharing rules applicable to MSS, because MSS licensees are currently in the midst of the implementation and relocation process. The Commission also sought comment on whether MSS entrants entitled to reimbursement under Section 101.82 should submit their reimbursement claims to an AWS clearinghouse, including any procedures adopted for filing such claims.[312] The Commission believed that this approach would relieve MSS licensees of the burden of identifying the AWS licensees who would be obligated to pay relocation costs, and sought comment on this proposal.

89. *Comments.* Most commenters support using a neutral clearinghouse to facilitate reimbursement of MSS ancillary terrestrial component (ATC) base stations[313] and AWS operators that relocate incumbent FS licensees, although TMI/Terrestar state that MSS operators should have the right (but not the obligation) to obtain reimbursement through the clearinghouse arrangement.[314] PCIA agrees with TMI/Terrestar that MSS operators should retain the right to negotiate their own agreements for reimbursement with AWS licensees or other incumbents.[315] TMI/TerreStar also note that Section 101.82 does not expressly refer to ATC and asks us to make clear in the rules that MSS is entitled to cost sharing for microwave links that are relocated for ATC operations.[316] TMI/TerreStar add that if a clearinghouse will resolve MSS-AWS and AWS-AWS reimbursement claims, then the Commission should delegate the task of selecting a clearinghouse jointly to the International Bureau (which licenses MSS) and to the WTB (which licenses AWS).[317] In addition, TMI/TerreStar suggest that we require the clearinghouse to publish all of its policy and procedures on the Internet, subject to appropriate security provisions, to ensure neutrality and transparency.[318] According to TMI/TerreStar, any clearinghouse-based reimbursement option should be available to MSS operators for as long as needed, *i.e.*, should not sunset until at least January 1, 2015, because incumbent microwave licensees in the 2180-2200 MHz band will be co-primary until December 2013, and the need to relocate incumbent microwave links may not be known until MSS begins operating across the full MSS downlink band.[319]

90. Commenters that specifically address cost-sharing procedures in the context of MSS also recommend using the Part 24 cost-sharing procedures instead of Section 101.82. Comsearch, PCIA, TMI/TerreStar, and T-Mobile state that the Part 24 Proximity Threshold Test should be used for determining when a later-entering AWS or ATC licensee is obliged to reimburse an AWS, ATC, or MSS

[312] *Id.*

[313] For additional information on MSS ATC, *see generally* Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands, IB Docket No. 01-185, *Report and Order and Notice of Proposed Rulemaking*, 18 FCC Rcd 1962 (2003), *Order on Reconsideration*, 18 FCC Rcd 13590 (2003).

[314] TMI/TerreStar Comments at 4. "While the current rules establish an unambiguous basis for sharing relocation costs among the initial MSS and subsequent AWS licensees, the *AWS Fifth Notice* recognizes that the rules do not provide an express mechanism for implementing this regime. TMI/TerreStar consequently support the FCC's proposal to grant MSS licensees the right (but not the obligation) to obtain reimbursements through the Part 24 clearinghouse arrangement that has been proposed for resolving claims for shared relocation costs among AWS licensees." *Id.*

[315] PCIA Reply at 2-3, n.6.

[316] TMI/TerreStar at 5-6.

[317] TMI/Terrestar Comments at 6-7.

[318] TMI/TerreStar Comments at 7.

[319] *Id*. TMI/TerreStar state that some incumbent microwave licensees may not be relocated until after TMI/Terrestar begin service in 2008; also, that the identity of AWS licensees in some paired microwave bands may not be known until after 2008.

(space station) licensee which has previously relocated a terrestrial microwave facility.[320] According to T-Mobile, the "benefits in terms of administrative ease for a licensee (or cost-sharing clearinghouse) vastly outweigh the marginal inclusion or exclusion of particular facilities under a bright line test versus an actual [predicted] interference test" under Section 101.82.[321]

91. Several commenters offer additional suggestions that focus on the MSS cost-sharing obligation to AWS. PCIA proposes that cost sharing should be triggered for all previously relocated co-channel links when MSS initiates downlink operations.[322] PCIA also asks us to make clear in Section 101.82 that microwave licensees may self-relocate and obtain reimbursement if an emerging technology (ET) licensee later triggers the former link.[323] Comsearch avers that Section 101.82 does not contemplate the possibility that more than two licensees may be required to relocate a fixed microwave link whereas the Part 24 cost-sharing regime includes a cost-sharing formula to account for multiple relocators.[324]

92. Comsearch also notes that it is quite likely that AWS licensees will undertake significant relocation efforts before MSS licensees, in which case the non-depreciating reimbursement obligation of Section 101.82 will be a burden on MSS licensees rather than an "additional assurance of cost recovery."[325] As such, Comsearch recommends the Part 24 cost-sharing formula, which includes depreciation, as the simplest to implement and the most equitable to all parties.[326] Comsearch and PCIA further recommend that we require MSS operators to file prior coordination notices (PCNs) so the clearinghouse can accurately track sharing obligations as they relate to third parties. PCIA states that the task of a clearinghouse is to identify cost sharing as between licensees, identify the amounts registered with the clearinghouse for link relocation, and apply set formulas in the rules for depreciation and sharing.[327] Comsearch urges reconsideration of the relocation and cost-sharing rules applicable to MSS[328] and proposes that MSS licensees coordinate all satellite downlink and ATC design proposals and register all incumbent links subject to reimbursement with the clearinghouse using procedures similar to Part 24.[329] Comsearch explains that while a clearinghouse would be useful to MSS licensees looking to

[320] Comsearch Comments at 7, n.10; PCIA Reply at 3; TMI/Terrestar *Ex Parte*, filed Feb. 3, 2006, at 2-3; T-Mobile Reply at 5. *See also* TMI/TerreStar Comments at 6 ("[T]he FCC should expressly harmonize the AWS-AWS and MSS-AWS standards . . . [to the] fixed and easily administered . . . 'Proximity Threshold Test' . . . and not the MSS-MSS interference showing criteria stated in Section 101.82. [A]dopting such criteria is essential for the efficient operation of the clearinghouse and will benefit all concerned . . . . "); TMI/TerreStar *Ex Parte*, filed Feb. 3, 2006, at 3 ("So far as cost sharing between MSS space segment providers is concerned, Section 101.82 should continue to apply as the Proximity Threshold Test is plainly inapposite.").

[321] T-Mobile Reply at 5.

[322] PCIA Reply at 3, n.9.

[323] PCIA Reply at 3-4.

[324] Comsearch Comments at 4.

[325] Comsearch Comments at 2-3 (quoting *AWS Fifth Notice*, 20 FCC Rcd at 15889, ¶ 50).

[326] Comsearch Comments at 3.

[327] PCIA Reply at 2-3, n.6. "MSS licensees, like others, should be free to negotiate alternative arrangements, but that does not obviate the need to file data with the clearinghouse to accurately track sharing obligations as they relate to third parties." *Id.*

[328] Comsearch Comments at 2. Comsearch acknowledges the Commission's conclusion not to change the relocation and cost sharing rules applicable to MSS, because MSS licensees are "'currently in the midst of the implementation and relocation process.'" *Id.* (*quoting AWS Fifth Notice*, 20 FCC Rcd at 15889, ¶ 50). However, Comsearch disagrees and urges reconsideration because Comsearch "does not believe that any significant relocation efforts by MSS licensees have already taken place [and] because it is quite likely that AWS licensees will undertake significant relocation efforts before MSS licensees." *Id.*

quickly recover any reimbursement claims, it would also serve an equally important role for AWS licensees by identifying any MSS cost-sharing obligations.[330]

93. *Discussion.* Based on the record before us, we conclude that MSS operators will have different cost-sharing obligations for microwave links that are relocated for space-to-Earth downlink operations than for microwave links that are relocated for MSS ATC operations. As noted above, we had previously adopted rules (*see* Section 101.82) for MSS cost sharing based on an interference criteria (TIA Technical Services Bulletin 86 (TIA TSB 86)), and the *AWS Fifth Notice* did not propose to change these relocation and cost-sharing obligations because the MSS operators were already in the midst of implementing these processes. The *AWS Fifth Notice* did, however, seek comment on whether MSS operators should use a clearinghouse for cost sharing. The relocation and cost-sharing obligations triggered by space-to-Earth links is relatively straightforward to implement because the MSS operator will relocate all incumbent microwave operations within the satellite service area before it begins operations if interference will occur. The MSS operator and the AWS licensees can therefore easily identify the parties with whom they will share costs.[331] We thus conclude here that we will not require MSS operators to use a clearinghouse for microwave links relocated for space-to-Earth downlinks and we will continue to apply the relocation and cost-sharing obligations provided in Section 101.82 to MSS operators that relocate microwave links for space-to-Earth downlink operations. We further conclude that MSS operators that relocate microwave links for space-to-Earth downlink operations should have the right, but not the obligation, to submit their claims for reimbursement (from AWS licensees) to the AWS clearinghouse pursuant to the procedures we adopt herein. As TMI/TerreStar and PCIA note, using the clearinghouse for reimbursement claims is voluntary in that MSS operators retain the right to enter into private cost-sharing agreements with AWS licensees. We clarify that if an MSS operator submits a claim to the clearinghouse, the interference criteria for determining cost-sharing obligations for an MSS space-to-Earth downlink is TIA TSB 86.

94. As TMI/TerreStar notes, the MSS cost-sharing obligations previously codified in Section 101.82 do not address MSS/ATC. Unlike MSS space-to-Earth downlinks which present relatively straightforward relocation and cost-sharing obligations, ATC operations will trigger incumbent microwave relocations on a link-by-link basis in the same way as AWS operations. We find that, since Section 101.82 is silent as to reimbursement for microwave links relocated for ATC base stations, it is appropriate to adopt a specific rule for ATC reimbursement for relocated terrestrial microwave facilities. Based on the record before us, we conclude that MSS operators that relocate microwave links for ATC operations will be required to use a clearinghouse for cost sharing and thus will have the same cost-sharing obligations as AWS entrants. The Commission previously determined that cost sharing would be determined using the relevant interference modeling[332] and that TIA TSB 10-F, or its successor standard, is an appropriate standard for purposes of triggering relocation obligations by new terrestrial (ATC or AWS) entrants in the 2 GHz band.[333] The Commission also noted that procedures other than TIA TSB

(Continued from previous page)

[329] Comsearch Comments at 2, 5-6; Comsearch Reply at 4-5 ("*All* entities should be required to file site data with the clearinghouse using the prior coordination notice (PCN) method [and required to] maintain the accuracy of any data. This rule should apply to all MSS downlink designs and ATC deployments . . . to effectively monitor cost sharing obligations due from any later entering MSS systems.").

[330] Comsearch Comments at 6 (noting that Commission has identified TIA TSB 86 as the applicable standard for use in determining relocation obligations in the case of satellite downlink interference into terrestrial receivers, and identified TIA TSB 10-F as an appropriate standard for ATC systems) (*citing MSS Second R&O*, 15 FCC Rcd at 12345-47 ¶ 78 and *MSS Third R&O*, 18 FCC Rcd 23638, 23672, ¶ 70).

[331] As discussed herein, an AWS licensee's cost sharing obligation would be based on the Proximity Threshold Test.

[332] *MSS Second R&O*, 15 FCC Rcd at 12346, ¶ 97.

[333] *MSS Third R&O*, 18 FCC Rcd at 23672, ¶¶ 70-71 *citing MSS Second R&O*, 15 FCC Rcd at 12346, ¶ 97, n.160 (in the case of terrestrial new service/FS interference, the relevant standard is found in TIA TSB 10-F or any standard successor).

10-F that follow generally acceptable good engineering practices are also acceptable.[334] For the same reasons discussed above in the context of intra-AWS cost sharing,[335] and based on the record before us, we conclude that the Proximity Threshold Test is an acceptable alternative to TIA TSB 10-F to determine interference for purposes of AWS-to-ATC and ATC-to-AWS cost sharing, and we adopt its use here as well.[336]

95. Furthermore, the Commission has specifically concluded that MSS terrestrial operations are technically similar to PCS and that TIA TSB 10-F is a relevant standard for determining whether a new ATC base station must relocate an incumbent microwave operation.[337] Given that the Proximity Threshold Test used for PCS, and now AWS cost-sharing obligations, is an acceptable alternative to TIA TSB 10-F to determine interference for purposes of cost sharing, we find it reasonable to also use this test for triggering ATC to AWS cost-sharing obligations. Under this approach, reimbursement is only triggered if all or part of the relocated microwave link was initially co-channel with the licensed band(s) of the AWS or ATC operator.[338] The Proximity Threshold Test will be easier to administer than TIA TSB 10-F and does not require extensive engineering studies or analyses, and it yields consistent, predictable results by eliminating the variations which can be associated with the use of TIA TSB 10-F.[339]

96. Given that AWS and ATC are terrestrial operations, we agree that MSS participation in the clearinghouse process should be mandatory for ATC operations so that the clearinghouse can accurately track cost-sharing obligations as they relate to all terrestrial operations. Thus, MSS operators must file notices of operation with the clearinghouse for all ATC base stations following the same rules and procedures that that will govern all AWS base stations. On the other hand, we find that the record before us provides no technical basis for adopting PCIA's proposal that, when MSS initiates space-to-Earth operations, cost sharing should be triggered nationwide automatically (rather than based on an interference analysis) for all previously relocated co-channel links. Moreover, the Commission previously concluded that TIA TSB 86 is the appropriate standard for purposes of triggering both relocation and cost-sharing obligations of new MSS downlink (space-to-Earth) operations.[340]

97. We decline TMI/TerreStar's suggestion to delegate the task of selecting a clearinghouse(s) jointly to WTB and the International Bureau. Our clearinghouse decisions today will impose mandatory requirements only on terrestrial operations and we believe that delegating authority to one bureau will promote consistency and uniformity. We also note that, as was the case for PCS, all entities interested in serving as a clearinghouse will have an opportunity to apply. Further, although WTB will oversee the selection of a clearinghouse(s), the International Bureau's expertise in mobile satellite

[334] *MSS Third R&O*, 18 FCC Rcd at 23672, ¶ 71, n.186 (*citing* 47 C.F.R. § 101.105(c)).

[335] *See supra* ¶ 79.

[336] *See, e.g., Microwave Cost Sharing First R&O and FNPRM*, 11 FCC Rcd at 8892, Appendix A ¶¶ 32-33. Thus, the Proximity Threshold Test will be used to determine (1) when an AWS licensee is obliged to reimburse an MSS (including ATC) operator that relocated a microwave link, and (2) when an ATC operator is obliged to reimburse an AWS licensee that relocated a microwave link.

[337] *MSS Third R&O*, 18 FCC Rcd at 23672, ¶ 70.

[338] *See, e.g.*, *Microwave Cost Sharing First R&O and FNPRM*, 11 FCC Rcd at 8893-94, Appendix A ¶¶ 33-34. (excluding adjacent channel interference as a trigger for cost sharing greatly simplifies the cost sharing plan and eliminates many possible disagreements over whether a system would have caused or experienced adjacent channel interference).

[339] *See, e.g.*, *id*. at 8893, ¶ 33 (a base station will either fall inside the reimbursement "box" or outside of it and this approach will permit existing and prospective providers to project their cost sharing obligations more accurately).

[340] *MSS Second R&O*, 15 FCC Rcd at 12340-41, ¶ 78 (adopted TIA TSB 86 as the standard for assessing interference) and *id.,*15 FCC Rcd at 12346, ¶ 97 (MSS licensee will not be required to reimburse initial licensee for relocation expenses where interference modeling in accordance with TIA TSB 86 indicates that MSS licensee could have successfully shared spectrum with a FS microwave incumbent).

licensing remains fully available to that bureau, if needed. Moreover, as was the case for the PCS clearinghouse, the selection process as well as the appropriate clearinghouse(s) policies and procedures will be public, likely available on the Internet, to ensure neutrality and transparency.

98. Under Section 101.79, MSS is not required to pay relocation costs after the relocation rules sunset, *i.e.*, ten years after the mandatory negotiation period began for MSS/ATC licensees in this service.[341] For MSS/ATC, the relocation sunset date will be December 8, 2013.[342] Under Part 101, new cost-sharing obligations under Section 101.82 sunset along with the relocation sunset. Nonetheless, TMI/TerreStar's concern that any clearinghouse-based reimbursement option should be available until at least December 31, 2014, appears to be satisfied because, as discussed above, the AWS cost-sharing obligation sunset will not occur until after 2015.[343]

99. We decline the suggestion to impose an obligation on MSS to share costs with self-relocating FS incumbents because the proposal is beyond the scope of the *AWS Fifth Notice.* We further note that the Commission previously concluded that a reimbursement scheme for voluntary self-relocation was not envisioned by the MSS/FS relocation plan and that initiating a plan for MSS reimbursing those who voluntarily relocate was not warranted.[344] Similarly, we decline the suggestion to adopt Part 24 depreciation for AWS/MSS cost sharing both because it beyond the scope of the *Fifth Notice* and because the Commission concluded in 2000 that the Part 24 amortization formula, whereby the amount of reimbursement owed by later entrants diminishes over time, is irrelevant to AWS/MSS cost sharing. The Commission explained that the amortization schedule is intended to account for the competitive advantage that the first provider to the market enjoys over later entrants and that the competitive advantage of early entry does not factor into this case.[345] The record before us presents no basis for reversing this earlier conclusion. Thus, as noted in the *AWS Fifth Notice*, the Part 24 plan formula, *e.g.*, depreciation, will not govern reimbursement due to an MSS licensee who requests reimbursement from an MSS or AWS licensee, or to reimbursement due to an AWS licensee who requests reimbursement from an MSS licensee under Section 101.82. If an AWS licensee reimburses an MSS licensee under Section 101.82, this sum shall be treated as the entire actual cost of the link relocation for purposes of applying the cost-sharing formula relative to other AWS licensees that benefit.[346] In such instances, the AWS licensee must register the link with a clearinghouse within 30 calendar days of making the payment to the MSS operator.[347]

100. The suggestion to require MSS/ATC to coordinate with FS incumbents is similarly beyond the scope of the *AWS Fifth Notice,* which focused on whether MSS should participate in the terrestrial clearinghouse. The *AWS Fifth Notice* expressly declined to revisit the MSS relocation and cost-sharing matters decided between 2000 and 2003 and directly stated that new MSS licensees would continue to follow the cost-sharing approach set forth in Section 101.82.[348] Comsearch's point that it is no longer a certainty that MSS will begin operations before AWS is well taken. Nonetheless, as noted in the *AWS Fifth Notice*, the relocation process adopted for MSS is already underway. In this connection, we note that the mandatory negotiation period for non-public safety and public safety incumbents ended

[341] *See* 47 C.F.R. § 101.79(a).

[342] *See MSS Third R&O*, 18 FCC Rcd at 23678; *recon. denied,* 19 FCC Rcd 20720 (2004).

[343] *See supra* ¶ 82.

[344] *See MSS Third R&O*, 18 FCC Rcd at 23673, ¶ 73.

[345] *MSS Second R&O*, 15 FCC Rcd at 12347, ¶ 101.

[346] *See AWS Fifth Notice*, 20 FCC Rcd at 15889, ¶ 50, n.129.

[347] *See supra* ¶ 77.

[348] *See AWS Fifth Notice*, 20 FCC Rcd at 15888-89, ¶¶ 47, n.124, 50.

on December 8, 2004, and December 8, 2005, respectively.[349] Therefore, because these additional suggestions are beyond the scope of the *AWS Fifth Notice* and address issues already decided in prior Commission decisions, we decline to adopt these requests herein.

2. Relocation of Incumbent BRS Licensees in the 2150-2160/62 MHz Band

101. *Background.* In the *AWS Fifth Notice*, the Commission stated that there may be instances where an AWS entrant relocates more BRS facilities than an interference analysis would indicate was technically necessary.[350] The Commission noted, for example, that an AWS entrant might be required to relocate facilities outside its own service area to comply with the comparable facilities requirement.[351] In that event, a subsequent co-channel AWS entrant in an adjacent geographic area might also benefit from the relocation.[352] The Commission noted, in addition, that the relocation of a single BRS facility might benefit more than one AWS entrant.[353] The Commission therefore sought comment on whether it should require AWS licensees who benefit from an earlier AWS licensee's relocation of a BRS incumbent in the 2150-2160/62 MHz band to share in the cost of that relocation.[354] In particular, the Commission sought comment on what criteria could be used to identify whether a subsequent AWS licensee has an obligation to share the cost of relocating a BRS incumbent and how costs should be apportioned among new entrants.[355] The Commission further sought comment on whether cost-sharing obligations should be subject to a specific cap, whether it should adopt formal cost-sharing procedures such as the Part 24 cost-sharing plan, and whether a clearinghouse should be assigned to administer the process.[356]

102. *Comments.* Commenters addressing the issue generally agree that the costs of a BRS system relocation should be shared among AWS licensees that benefit from the relocation.[357] Commenters assert, in particular, that AWS licensees in the F Block, which overlaps that portion of BRS channel 1 spectrum from 2150-2155 MHz, should be entitled to share the costs of relocating BRS channel 1 and 2/2A incumbents with future AWS licensees that are licensed to use the upper one megahertz of BRS channel 1 (2155-2156 MHz) and the spectrum now occupied by BRS channels 2 and 2A (2156-2160/62 MHz).[358] However, few commenters offer details regarding what cost-sharing rules we should adopt. CTIA, PCIA, and T-Mobile support adopting the PCS cost-sharing framework.[359] CTIA also states that "to ensure consistent treatment of similar services, the Commission should develop a single set

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[349] *See* 47 C.F.R. § 101.69(e).

[350] *AWS Fifth Notice*, 20 FCC Rcd at 15889, ¶ 51.

[351] *Id.*

[352] *Id.*

[353] *Id.*

[354] *Id.*

[355] *Id.*, 20 FCC Rcd at 15890, ¶ 52.

[356] *Id.*

[357] *See* CTIA Comments at 14 ("all those that benefit from the relocation of BRS incumbents should be required to pay a proportional share of the costs of relocation"); PCIA Comments at 2-3; T-Mobile Comments at 2, 4; WCA Comments at 2, n.41 (stating that "[t]here is no doubt that multiple AWS licensees will benefit from most BRS relocations and thus cost sharing may be appropriate"); Comsearch Reply at 4; PCIA Reply at 4; US Cellular Reply at 4.

[358] *See* Sprint Nextel Comments at 2, n.3 ("AWS licensees should be free to seek reimbursement for relocation expenses from new entrants that occupy the 2155-2162 MHz band once the spectrum above 2155 MHz is licensed.").

[359] PCIA Comments at 3; T-Mobile Comments at 4; CTIA Reply at 9.

of cost-sharing rules and universally apply them to all implicated services."[360] However, none of these commenters offer guidance on how to modify tests and procedures designed to work for FS relocation so that they work for BRS. US Cellular advocates adopting a cost-sharing plan in which only co-channel interference with BRS systems would be considered for purposes of triggering an AWS cost-sharing obligation.[361] It argues that excluding adjacent channel interference "for cost sharing purposes greatly simplifies the cost-sharing plan and eliminates many possible disagreements over whether an AWS system would have caused or experienced adjacent channel interference."[362] Comsearch suggests using the line-of-site test as a method for identifying whether an AWS entrant is a beneficiary of the relocation of a particular BRS system.[363] T-Mobile recommends that, if the line-of-sight test is chosen, "the Commission should also specify a particular model for determining line of sight, as well as any other variable inputs into such a determination so there is no ambiguity as to whether or not a threshold condition has been met."[364] Finally, while no commenter has discussed whether there should be a cap on cost-sharing obligations specifically (*i.e.*, a cap on the costs that a relocator can seek from other AWS licensees that benefit from the relocation), CTIA has proposed that the Commission establish a cap on relocation costs.[365] Specifically, it proposes, as described above, that each BRS incumbent submit, pre-auction, an estimate of what it will cost to relocate the incumbent's systems, and further proposes that an AWS licensee relocating the incumbent be obligated to spend no more than 110% of this estimate.[366]

103. With regard to the use of a clearinghouse to administer the cost-sharing process involved in the BRS relocation, the few commenting parties addressing the issue are generally supportive.[367] For example, Comsearch states that, without a clearinghouse, the cost-sharing process would be inefficient and subject to disputes, thereby hindering and delaying the relocation process.[368] PCIA asserts that "the application of the cost-sharing model to BRS relocation, including the use of a clearinghouse, will be necessary" because "BRS channel 1 overlaps not only the F Block of AWS spectrum, but also new AWS spectrum at 2155-2180 MHz" and because of the potential for BRS facilities to cross more than one AWS market.[369] CTIA contends that using a third-party clearinghouse "is essential to an efficient and effective cost-sharing mechanism."[370]

104. *Discussion.* We find that cost sharing will provide for a more equitable relocation process by spreading the costs of the relocation among the AWS licensees that benefit. In addition, cost sharing should accelerate the relocation process by encouraging new entrants to relocate systems themselves rather than wait for another entrant to do so. We note that no commenter opposes the

[360] CTIA Reply at 9.

[361] US Cellular Reply at 4; *see also* Sprint Nextel Comments at 2, n.3.

[362] US Cellular Reply at 4.

[363] Comsearch Reply at 3, n.10.

[364] T-Mobile Reply at 5.

[365] *See* CTIA Comments at 7, 9-10.

[366] *Id.*

[367] *See* CTIA Comments at 14; Comsearch Reply at 2, 4; PCIA Reply at 4. However, as noted below, WCA, though not opposed to the use of a cost-sharing clearinghouse, expresses the view that a third-party administrator is not needed to oversee the relocation process "due to the relatively limited number of BRS facilities that will need to be relocated . . . and the fact that most are likely to be relocated pursuant to private agreements negotiated among AWS licensees, BRS licensees and BRS spectrum lessees . . . ." WCA Comments at 22.

[368] Comsearch Reply at 4.

[369] PCIA Reply at 4.

[370] CTIA Comment at 14.

imposition of such obligations, and several expressly support it.[371] We therefore conclude that we should establish cost-sharing obligations for AWS licensees that benefit from another AWS licensee's relocation of a BRS incumbent from the 2150-2160/62 MHz band.[372]

105. We further conclude that the Part 24 cost-sharing rules provide an appropriate framework for BRS relocation cost sharing. As discussed above, the Part 24 cost-sharing rules and procedures have proven effective in sharing the costs of FS relocation. Admittedly, as the Commission noted in the *AWS Fifth Notice*, applying the PCS cost-sharing regime to BRS will require significant changes to account for the differences between BRS services and fixed point-to-point services. We find, however, that in most respects, the PCS cost-sharing regime can be applied to BRS. We further find that the PCS cost-sharing system provides the best balance of competing concerns, such as precision and ease of administration. Adopting a regime based on the PCS cost-sharing rules will also benefit AWS licensees to the extent that they already have a familiarity with the system. In addition, we anticipate, as discussed in detail below, that an administrator of the cost-sharing system can achieve efficiencies by jointly administering BRS cost sharing with the very similar regime we have established for relocation of FS incumbents. Finally, we note that several commenters support the application of the PCS cost-sharing framework, and none suggest an alternative comprehensive cost-sharing regime.[373] Therefore, our implementation of a BRS cost-sharing regime is guided generally by the PCS cost-sharing rules and departs from those rules only where a different approach is justified.

106. *Clearinghouse.* We agree with those commenters who recommend using a clearinghouse to administer any cost-sharing rules the Commission may adopt in the relocation of BRS incumbents from the 2150-2160/62 MHz band. The efficiency and ability of a clearinghouse to resolve disputes among new entrants and incumbents will help to expedite the relocation process. Moreover, to the extent that the clearinghouse established to administer cost-sharing rules for the relocation of FS incumbents in the 2.1 GHz band might also administer the cost-sharing process for BRS relocation, this would promote efficiencies and reduce potential delays suggested by some commenters.[374]

107. We therefore delegate to WTB the authority to select one or more entities to create and administer a neutral, not-for-profit clearinghouse. Selection shall be based on criteria established by WTB. WTB shall publicly announce the criteria and solicit proposals from qualified parties. Once such proposals have been received, and an opportunity has elapsed for public comment on them, WTB shall make its selection. When WTB selects an administrator, it shall announce the effective date of the cost-sharing rules.

108. *Triggering A Reimbursement Obligation.* We establish the following rules for identifying when an AWS licensee entering a market triggers a cost-sharing obligation in connection with the prior relocation of a BRS system in the 2150-2160/62 MHz band.[375] First, we limit cost-sharing obligations to

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[371] *See* CTIA Comments at 14; PCIA Comments at 3; T-Mobile Comments at 4; Comsearch Reply at 4; PCIA Reply at 4; US Cellular Reply at 4.

[372] We emphasize that our conclusions with regard to the appropriate rules, procedures, and implementation of cost sharing for BRS relocation apply only to the relocation of BRS incumbents in the 2150-2160/62 MHz band. Nothing in this discussion should be taken to prejudge or apply to issues regarding the transition of incumbents in the 2.5 GHz spectrum to the new BRS/EBS band plan.

[373] *See* PCIA Comments at 3; T-Mobile Comments at 4; CTIA Reply at 9.

[374] At this time, we make no determination of whether a clearinghouse must provide administration for both FS and BRS-related cost sharing.

[375] As noted above, BRS systems licensed after 1992 to use the 2160-2162 MHz band operate in that spectrum on a secondary basis and are not entitled to relocation. *See supra,* ¶ 25. We clarify that if AWS licensees relocate a system operating in the 2160-62 MHz band on a secondary basis and voluntarily agree with the incumbent to be responsible for the entire costs of relocation, including the costs of relocating the 2160-62 MHz band, the costs attributable to the relocation of the 2160-62 MHz band constitute a "premium" to the incumbent and may not be (continued….)

those AWS entrants licensed in spectrum that is co-channel, at least in part, with the bands previously used by the relocated BRS system (*i.e.,* those AWS entrants who operate using licenses that overlap with the 2150-2160/62 MHz band). We note that the Commission similarly limited the PCS cost-sharing obligations to new entrants that would have caused co-channel interference to the incumbent, and we agree with US Cellular that excluding other AWS channels [non-co-channel] for cost sharing purposes "greatly simplifies the cost-sharing plan and eliminates many possible disagreements over whether an AWS system would have caused or experienced adjacent channel interference."[376]

109. When an AWS entrant turns on a fixed base station using a license that overlaps spectrum in the 2150-2160/62 MHz band previously used by a relocated BRS system, a cost obligation will be triggered if the base station transmitting antenna is determined to have a line-of-sight path with the receiving antenna of the relocated BRS system hub.[377] For BRS systems using the 2150-2160/62 MHz band exclusively to provide one-way transmission to subscribers, *i.e.*, delivery of video programming, we employ a different line-of-sight test, as we have above in the relocation process, to account for the fact that interference to the BRS system would occur at the subscriber's end user equipment. For these systems, a cost obligation will be triggered if the AWS entrant has line of sight to the BRS incumbent's GSA.[378]

110. We choose the line-of-sight test described above as the test for triggering cost-sharing obligations for a number of reasons. As an initial matter, we note that this approach to identifying beneficiaries is supported by Comsearch and that no commenter has suggested an alternative method.[379] Further, we have already determined that, as proposed by Sprint Nextel and other parties, line of sight provides an appropriate test for determining whether an AWS entrant in the 2150-2160/62 MHz band must relocate a co-channel BRS incumbent.[380] It is therefore also an appropriate means of determining whether other AWS entrants would have been required to relocate the system, and have thus benefited from the relocation.

(Continued from previous page)
recovered through the cost sharing process. Accordingly, in such a case, the relocator must deduct from the actual costs of relocation it submits to the clearinghouse a *pro rata* share of the costs associated with the 2160-2162 MHz band. If the system operated in the 2160-62 MHz band on a primary basis, no such deduction is necessary.

[376] US Cellular Reply at 4. Sprint Nextel asserts that "[t]he mechanics of the interference from AWS base stations in non-adjacent AWS channel blocks are the same as for the co-channel interference described here" and that "AWS base stations in the AWS Blocks A-E will cause harmful interference to highly sensitive BRS 1-2 receive station hubs . . . ." Sprint Nextel Comments at 16, n.29. Thus, Sprint Nextel advocates using the same line-of-sight test for AWS entrants whether operating in spectrum that is co-channel to BRS system spectrum or not. *See id.* at 17. As noted above, however, we find that whether licensees in the A-E blocks can operate within line of sight of a BRS system without causing harmful interference can only be determined on a complex case-by-case analysis. *See supra*, ¶¶ 53-54.

[377] As with the test for triggering relocation, parties applying this cost sharing test should follow the line-of-sight determination method described in Appendix D of the *Two-Way R&O and FNRPM*, Appendix D, 15 FCC Rcd 14566, 14625, 14626 (2000) (describing the method of determining whether a path between a transmitter and a receiver is line of sight).

[378] *See* WCA Comments at 36-37; *see also* 47 C.F.R. § 21.902(f)(5) (2004). This provision specifies that a line-of-sight determination should be based on the assumption that a BRS receiving antenna is installed 30 feet above ground level at each point in the GSA, determination of the actual height of the proposed station's transmitting antenna and actual terrain elevation data, and assuming 4/3 Earth radius propagation conditions. *Id.* We also note that any AWS transmitter within the GSA will necessarily satisfy the line-of-sight test in this case, and thus, the need for a line-of-sight analysis is obviated.

[379] *See* Comsearch Reply at 3 n.10. T-Mobile does advocate adopting, as an alternative to the line-of-sight test, a "version of the proximity threshold [test] used in the 1.9 GHz relocation process . . . ." T-Mobile Reply at 5. However, it offers no suggestion as to what that version would look like.

[380] *See supra*, ¶¶ 51-52.

111. As we have noted above, the line-of-sight test constitutes an easy-to-implement "bright-line" test.[381] Thus, we believe that the test satisfies the requests of several commenters for clarity and certainty in the cost-sharing process.[382] We also expect that the administrative burden of applying the line-of-sight test to identify beneficiaries of a relocation and the potential for disputes over its application will be limited for several reasons. First, because we have excluded licensees operating solely in adjacent and non-adjacent spectrum from cost-sharing obligations, only co-channel interference need be considered. Second, there are a relatively limited number of BRS systems and thus few systems for whom potential beneficiaries will need to be determined.[383] Third, because the 2145-2155 MHz block will be licensed on a REAG basis,[384] which is the largest geographic area license in the AWS spectrum, we expect that only one 2145-2155 MHz licensee would typically cause interference to a BRS system, and thus that there will be few instances of cost sharing between 2145-2155 MHz licensees.[385]

112. *Obtaining Reimbursement Rights.* As in the PCS system, in order to receive reimbursement from licensees that benefit from a relocation, we require an AWS relocator to register the system that has been relocated with a cost-sharing clearinghouse. Following the PCS model, as modified above for AWS relocation of FS, we provide that AWS licensees receive rights to reimbursement on the date that they enter into an agreement to relocate a BRS system in the 2150-2160/62 MHz band, and we require them to register documentation of the relocation agreement, with a clearinghouse within 30 calendar days of the date that the relocation agreement is signed. In the event that relocation is involuntary, we require the AWS licensee to file documentation of the relocation with the clearinghouse within 30 calendar days after the end of the relocation process, which will be the end of the one-year trial period in the absence of any disputes during that period.[386]

113. We further require AWS licensees, in registering their reimbursement rights with a clearinghouse, to provide certain information necessary to implement the reimbursement trigger test we have established. As discussed above, to determine whether an AWS licensee beginning operation of a base station has triggered a reimbursement obligation, a clearinghouse will apply a line-of-sight test. The precise line-of-sight method differs depending on whether the relocated system used the 2150-2160/62 MHz band for one-way transmissions to their subscribers' end user equipment or to receive broadband data at the BRS receive station hub. Therefore, we require AWS licensees registering relocated systems to provide the following information to the clearinghouse: (1) a detailed description of the relocated system's spectral frequency use; (2) if the system exclusively provided one-way transmission to subscribers, the GSA of the relocated system; and (3) if the system did not exclusively provide one-way

[381] *See supra*, ¶ 51. *See also* CTIA Comments at 5, 6 n.19 (describing the line-of-sight test as "a bright line test" that provides the "simplest, most equitable, and most cost-effective manner of protecting AWS and BRS licensees against interference . . . .").

[382] For example, PCIA emphasized the "need . . . for clarity in the rules and unambiguous, straight forward criteria for assessing reimbursement and cost sharing." PCIA Reply at 4. PCIA argued that, "[o]nly then will AWS licensees be able to accurately predict the financial ramifications of BRS clearing in their pre-auction strategic planning." *Id.* PCIA therefore urged the Commission, "in resolving the BRS relocation issues, to apply bright line tests to achieve the best and most efficient transition practicable." *Id. See also* PCIA Comments at 5 ("Having a bright line test eliminated many disputes over whether an entity was obligated under the [cost] sharing rules."); T-Mobile Reply at 5 (agreeing "with those commenters advocating the efficacy of bright-line tests").

[383] *See supra*, ¶¶ 13-14.

[384] There are twelve Regional Economic Area Groupings (REAGs), the first six covering the continental United States and the other six covering smaller areas (*i.e.*, Alaska, Hawaii, the islands, and the Gulf of Mexico). 47 C.F.R. § 27.6(a)(1).

[385] *See* PCIA Reply at 4.

[386] Thus, if the relocation process is extended due to an incumbent exercising the right of return or asserting defects in the new facilities that need to be remedied, the deadline to register the system will also be extended.

transmission to subscribers, the system hub antenna's geographic location and the above ground level height of the receive station hub's receiving antenna centerline.

114. *Registration of New or Modified AWS Stations.* As noted above in our discussion of cost sharing for FS relocation, to permit a clearinghouse to identify AWS beneficiaries of an FS relocation, every AWS licensee that constructs a new site or modifies an existing site in the 2.1 GHz band must file certain site information with the clearinghouse(s) prior to commencing operations.[387] To ensure that a clearinghouse can apply the line-of-sight test to identify beneficiaries of a BRS relocation, however, we will require AWS licensees that construct or modify a site in the 2150-2162 MHz band to file, in addition to the information required from other 2.1 GHz AWS licensees, the above ground level height of the transmitting antenna centerline. We note, in particular, that the duty to file this information applies to an AWS licensee that modifies the frequencies used by a station such that a station previously operating entirely outside the 2150-2162 MHz band now operates inside the band. We further impose a continuing duty on entities to maintain the accuracy of the data on file with the clearinghouse, including height data and spectrum use.[388]

115. *Determining Reimbursement Rights.* A particular beneficiary's cost-sharing obligation will be calculated using the PCS cost-sharing formula discussed above, which imposes on each beneficiary a *pro rata* share of the relocation cost reduced in amount by a depreciation factor. We modify the PCS formula in one respect, however, using a fifteen year depreciation period rather than the ten year period used by PCS and AWS licensees. Choosing the same fifteen-year period for depreciation that we have chosen above for the relocation sunset period ensures that any AWS beneficiary that enters BRS spectrum before the relocation sunset will incur some obligation to share in the cost of the prior relocation.

116. We will also follow the policy in the PCS cost-sharing rules that entitles relocators to full reimbursement without depreciation (rather than a *pro rata* amount subject to depreciation) where they relocate facilities that do not pose an interference problem to their own stations. This policy is intended to provide a new licensee with an incentive to relocate an incumbent's entire network instead of only those facilities that the licensee would be required to relocate under an interference analysis.[389] Here, because we require relocation on a system-by-system basis (*i.e.*, a licensee that interferes with part of a BRS system must relocate the entire system, but not necessarily a separate system that is part of the BRS incumbent's network), we hold that relocators will be entitled to 100 percent reimbursement for the costs of relocating a particular system if they would not have triggered a relocation obligation for that system. As with the PCS and AWS rules, we adopt a simplified test for determining when a relocator would have been required to relocate the system that ignores the possibility of adjacent or non-adjacent channel interference. Specifically, we will allow full reimbursement of compensable costs if either (1) the AWS

[387] As explained in our discussion of the cost sharing rules for FS relocation above, we require all AWS licensees constructing new sites or modifying existing sites to file site-specific data with the clearinghouse prior to initiating operations. *See supra*, ¶ 78. The site data must provide a detailed description of the proposed site's spectral frequency use and geographic location. We will also impose a continuing duty on those entities to maintain the accuracy of the data on file with the clearinghouse. We find that such an approach will ensure fairness in the process and preclude new entrants from conducting independent interference studies for the purpose or effect of evading the requirement to file site-specific data with the clearinghouse prior to initiating operations. However, we will continue to require entrants and licensees to comply with the coordination requirements currently set forth in the Commission's Rules. *See, e.g.,* 47 C.F.R. § 24.249(a) (new entrant must file PCN with clearinghouse); 47 C.F.R. § 101.103(d) (proposed frequency usage must be prior coordinated with existing licensees).

[388] Because the cost sharing regime depends critically on a clearinghouse having accurate information, we strongly emphasize that AWS licensees are responsible for both providing all requisite information on a timely basis and for ensuring that the clearinghouse is informed on a timely basis of any changes to that data.

[389] *See Microwave Cost Sharing Notice*, 11 FCC Rcd 1923, 1937-38, ¶ 32 (1995); *Microwave Cost Sharing First R&O and FNPRM*, 11 FCC Rcd 8825, 8884, Appendix A ¶ 16 (1996).

relocator's licensed frequency band is fully outside the BRS system's spectrum; or (2) the AWS relocator would not have triggered relocation under the applicable line-of-sight test.[390]

117. We decline to adopt a cap on the amount of reimbursement that benefiting entrants may owe. We note that no party has expressly proposed a cost-sharing cap and that CTIA's proposal would cap actual relocation costs rather than merely capping cost-sharing obligations. However, even if the cap were to apply only to cost-sharing obligations, we are not persuaded that it is practical for incumbents to determine such costs at this time. We also note that a cap on cost-sharing obligations would have no effect on incumbents' rights to relocation costs and would only limit the rights of AWS licensees to receive reimbursement from other AWS licensees. We are therefore concerned that incumbents would not have adequate incentives to identify an appropriate cost-sharing cap. Finally, we find no basis in the record to determine a specific cap ourselves. We therefore conclude that the reimbursable costs of a BRS system relocation will not be limited to any specific maximum amount.

118. AWS licensees will therefore not have the safeguard and assurance of a specific cap on their reimbursement obligations, as they do under the PCS cost-sharing rules. We nevertheless conclude that the rules we adopt below will provide beneficiaries with adequate protection from excessive reimbursement obligations. The PCS cost-sharing rules that we will incorporate include many other protections against excessive costs and, in addition, we have made modifications to the rules, as discussed below, to add to those protections.

119. First, in defining reimbursable costs, we follow the policy in the PCS cost-sharing rules of limiting reimbursement to the actual cost of providing comparable facilities. Actual costs include those costs for which a relocator would be responsible in an involuntary relocation. In addition, incumbent transaction costs that are directly attributable to the relocation will also be subject to cost-sharing reimbursement up to a cap of two percent of the "hard" costs. Any relocation payments beyond these costs described above, so-called "premium" payments, are not reimbursable.[391] As we have with the FS cost-sharing regime, we further require relocators to prepare and submit an itemized documentation of all reimbursable relocation costs.[392] In providing itemization, we direct parties to provide itemization of any applicable costs listed in section 24.243(b), and for other costs, such as equipment not listed in section 24.243(b), to be guided by that provision in determining appropriate detail of itemization.[393] We direct the clearinghouse to require re-filing of any documentation found to be insufficiently specific.

120. In addition to preparing the documentation described above, we require each relocator, as a prerequisite for receiving reimbursement through the cost-sharing regime, to obtain a third-party appraisal of the actual costs of replacing the system with comparable facilities prior to relocation, and to provide this appraisal to the clearinghouse with its registration.[394] We believe that an independent appraisal will, in most cases, be a necessary safeguard against excessive costs in the absence of a specific

[390] By comparison, the PCS rules treat a microwave link as non-interfering if it is (1) fully outside the relocator's spectrum or (2) fully outside the relocator's licensed market area. *See* 47 C.F.R. § 24.245(c).

[391] Thus, because a relocator is not responsible for reimbursing an incumbent's internal costs, *see supra*, ¶ 40, they likewise may not be recovered through a cost-sharing obligation.

[392] *See* 47 C.F.R. § 24.245(b).

[393] *See id.*

[394] As we have with documentation on FS relocation, *see supra*, ¶ 84, we require relocators of BRS systems, after registering a relocated system for cost-sharing purposes, to maintain documentation of cost related issues records until the applicable cost-sharing sunset date and to provide such documentation, upon request, to the clearinghouse, the Commission, or entrants that trigger a cost sharing obligation. As above, we do not require the clearinghouse to maintain cost documentation, including the appraisals, for examination by either licensees, nor do we prohibit it from doing so.

cap on reimbursement obligations.[395] However, we also believe that there may be some cases where the appraisal adds an unnecessary cost to the process. In particular, the requested reimbursement may be low enough that the costs requested are clearly justified without the additional evidence that an appraisal provides. We therefore provide one exception to the requirement of a third-party appraisal that should allow for a more efficient process in cases where cost claims are well within the bounds of reasonableness. In particular, we will allow an AWS relocator to register its reimbursement claim without providing the third-party appraisal, on condition that, in submitting its cost claim, it consents to binding resolution of any good faith disputes regarding that claim by the clearinghouse under the following standard: the relocator shall bear the ultimate burden of proof, and shall be required to demonstrate by clear and convincing evidence that its request does not exceed the actual costs of relocating the relevant BRS system or systems to comparable facilities. We expect that, by imposing on AWS relocators a substantial burden of proof and the risk of losing reimbursement rights, we will discourage them from exercising the option to waive an appraisal except in those cases where, even in the absence of an appraisal, disputes are unlikely to arise.[396]

121. We also note that the depreciation of reimbursement obligations itself should help to deter excessive relocation costs. The fact that reimbursement obligations depreciate over time (with the limited exception noted above) will mean that the relocator will usually bear the largest share of the burden. Thus, it will provide the relocator with greater incentive to obtain relocation at a reasonable cost in the first instance.

122. Taken together, these measures should provide subsequent entrants with sufficient assurance in most cases that their cost-sharing obligations are not excessive. Should parties have good faith objections to reimbursement claims, however, they may exercise the same dispute resolution options available under the PCS cost-sharing rules, including review by the clearinghouse, and possible resolution by alternative dispute resolution methods such as arbitration.[397] We require, as we have above with FS cost-sharing disputes, that parties submit BRS cost-sharing disputes to the clearinghouse in the first instance.

123. *Participation in the Cost-sharing Plan.* The cost-sharing obligations we establish above merely serve as defaults. As in the PCS cost-sharing rules, parties remain free to enter into private cost-sharing arrangements that alter some or all of these default obligations. Such private agreements may serve to further limit disputes regarding particular obligations. We emphasize, however, that parties to a private cost-sharing agreement may continue to seek reimbursement under the cost-sharing rules from those licensees that are not party to the agreement. Further, except insofar as there is a superceding agreement, we require all AWS licensees to participate in the cost-sharing process as established above. Thus, AWS relocators of a BRS system, to receive reimbursement, must pursue such reimbursement through the process established above, except to the extent that they have made agreements to an alternative process. Likewise, all AWS licensees that benefit from a relocation will be subject to the cost-sharing obligations established above unless there is an applicable agreement that supercedes those obligations.[398]

[395] We also note that the cost of the third-party appraisal may be included in a claim for reimbursement.

[396] Parties bringing such disputes may choose whether to seek binding resolution from the clearinghouse or not. If they opt out of binding resolution, the general rules for dispute resolution will apply, except that in all cases, the relocator will bear the elevated burden of proof.

[397] We address the requirements for a good faith challenge to a reimbursement claim above in connection with cost sharing for FS relocation. *See supra*, ¶ 84. As with FS cost sharing, we require all parties to the BRS cost-sharing process to act in good faith in either registering reimbursement claims or making challenges to such claims.

[398] We note that the obligation to file new or modified site data may not be waived by agreement.

124. *Payment Issues and Incorporation of FS Rulings.* With regard to the timing of payments, and the eligibility for installment payments, we adopt the same rules for the BRS cost-sharing regime as we applied in the PCS cost-sharing system.[399] We also follow, in the BRS context, the ruling that cost-sharing obligations are not terminated by the physical deconstruction of the benefiting AWS base station.[400]

125. *Sunset.* As the Commission did with the PCS cost-sharing rules, we set a specific date on which the cost-sharing regime will cease. We conclude that the cost-sharing regime should terminate on the same day that the relocation obligation in the 2150-2160/62 MHz band sunsets. We note that after the obligation to relocate BRS incumbents sunsets, a new AWS entrant need not incur any expense to require incumbents to vacate, and therefore receives no benefit from an earlier relocation. Because licensees entering after the relocation sunset receive no benefit from an earlier relocation, we conclude that it is appropriate that they should incur no cost obligations. Accordingly, while any reimbursement obligation that has accrued on or before the cost-sharing sunset date will continue, no new obligations will accrue after that date.

IV. ORDER (WT DOCKET NO. 02-353)

126. In 2003, the Commission adopted a rule in the *AWS-1 Service Rules Order*[401] to require AWS licensees in the 2110-2155 MHz band to coordinate with incumbent BRS licensees operating in the 2150-2155 MHz band prior to initiating operations from any base or fixed station.[402] WCA filed a Petition for Reconsideration[403] averring that this rule inadequately protects BRS incumbents operating in the 2150-2160/62 MHz band from interference. WCA contends that this coordination approach is inconsistent with the Commission's statement in the *AWS-1 Service Rules Order* that "until such time as [MDS] operations are relocated, they must be protected from interference from AWS systems."[404] WCA adds that "had the [*AWS-1 Service Rules Order*] ended there [WCA's] petition for reconsideration would not have been necessary."

127. WCA asserts that a "coordination" requirement assumes that BRS upstream transmissions can co-exist with AWS downstream transmission on adjacent spectrum, which WCA argues is not possible if AWS licensees in the 2110-2155 MHz band are required to satisfy the same out-of-band emissions (OOBE) criteria to protect BRS licensees that they must employ to protect adjacent band AWS licensees ($43 + 10\log_{10}(P)$).[405] WCA also objects to the Commission's retainer of the option of "imposing requirements on either or both parties" in the event of a dispute.[406] WCA avers that ultimately, the Commission must deal with the larger issue of relocating BRS.[407]

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[399] 47 C.F.R. § 24.249(a), (b).

[400] *See supra*, ¶ 80.

[401] Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, WT Docket No. 02-353, *Report and Order*, 18 FCC Rcd 25162 (2003) ("*AWS-1 Service Rules Order*"). We previously addressed five petitions for reconsideration of the *AWS-1 Service Rules Order* and stated that we would address WCA's petition for reconsideration of the criteria for AWS licensees to protect incumbent BRS operations in the 2150-2160 MHz band in a subsequent order. *See* Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, WT Docket No. 02-353, *Order on Reconsideration*, 20 FCC Rcd 14058 (2005).

[402] *See* 47 C.F.R. § 27.1132 (Protection of Part 21 operations). *See also supra* note 1.

[403] Petition for Reconsideration filed by the Wireless Communications Association International, Inc. (WCA) on March 8, 2004, WT Docket No. 02-353 ("WCA Petition").

[404] WCA Petition at 7 (*quoting AWS-1 Service Rules Order* at ¶ 109).

[405] WCA Petition at 2, 7-8.

[406] WCA Petition at 7 (*quoting AWS Service Rules R&O* at ¶ 115 & n.92).

[407] WCA Petition at 3.

128. Today, in our *Ninth R&O* in ET Docket No. 00-258, we adopt significant revisions to our rules and policies regarding BRS channel 1 and 2/2A relocation. We find that our actions today have rendered the WCA Petition moot.[408] We therefore dismiss the petition for that reason.

V. PROCEDURAL MATTERS

129. *Final Regulatory Flexibility Analysis for Ninth Report and Order.* As required by Section 603 of the Regulatory Flexibility Act, 5 U.S.C. § 603, the Commission has prepared a Final Regulatory Flexibility Analysis (FRFA) of the possible significant economic impact on small entities of the proposals suggested in this document. The FRFA is set forth in Appendix B.

130. *Final Paperwork Reduction Analysis.* This *Ninth Report and Order and Order* contains new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. It will be submitted to the Office of Management and Budget (OMB) for review under Section 3705(d) of the PRA. OMB, the general public, and other Federal agencies are invited to comment on the new or modified information collections contained in this proceeding. In addition, we note that pursuant to the Small Business Paperwork Relief Act of 2002, Public Law No. 107-198 (*see* 44 U.S.C. § 3506(c)(4)), the Commission previously sought specific comment on how the Commission might "further reduce the information collection burden for small business concerns with fewer than 25 employees."

131. *Congressional Review Act.* The Commission will send a copy of this *Ninth Report and Order and Order* in a report to be sent to Congress and the General Accounting Office pursuant to the Congressional Review Act, *see* 5 U.S.C. § 801(a)(1)(A).

132. *Further Information.* For further information, contact Priya Shrinivasan or Patrick Forster, Office of Engineering and Technology, at (202) 418-7005 or (202) 418-7061, or via the Internet at Priya.Shrinivasan@fcc.gov or Patrick.Forster@fcc.gov, respectively.

VI. ORDERING CLAUSES

133. Accordingly, IT IS ORDERED that pursuant to Sections 1, 4(i), 7(a), 301, 303(f), 303(g), 303(r), 307, 316, 332 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 151, 154(i), 157(a), 301, 303(f), 303(g), 303(r), 307, 316, and 332, this Ninth Report and Order IS ADOPTED and that Parts 22, 27, and 101 of the Commission's Rules ARE AMENDED, as specified in Appendix A, [**effective 30 days after publication in the Federal Register**], except for Sections 27.1166(a), (b) and (e); 27.1170; 27.1182(a), (b); and 27.1186, which contain information collection requirements that are not effective until approved by the Office of Management and Budget. The FCC will publish a document in the Federal Register announcing the effective date for those sections when approved.

134. IT IS FURTHER ORDERED that the Petition for Reconsideration filed by the Wireless Communications Association International on March 8, 2004 (WT Docket No. 02-353), IS DISMISSED as moot.

[408] *See Ninth R&O*, *supra* (adopting interference criteria based on the line-of-sight criteria that protected MDS under former Part 21 and MM Docket No. 97-217, and requiring AWS licensees in the 2110-2155 MHz band, prior to operating a base station that would cause harmful interference to incumbent BRS operations in the 2150-2160/62 MHz band, to either relocate the BRS operations or undertake system modifications).

135. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Ninth Report and Order 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

FINAL RULES

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR Parts 22, 27, and 101 as follows:

PART 22 – PUBLIC MOBILE SERVICES

1. The authority citation for Part 22 continues to read as follows:

Authority: 47 U.S.C. 154, 222, 303, 309, and 332.

2. Section 22.602 is amended by revising the heading, removing and reserving paragraphs (b) and (h), revising paragraphs (c), (d), (e), and (j), and by adding a new paragraph (k) to read as follows:

§ 22.602 Transition of the 2110-2130 MHz and 2160-2180 MHz channels to emerging technologies.

***

(b) [Reserved]

(c) Relocation of fixed microwave licensees in the 2110-2130 MHz and 2160-2180 MHz bands will be subject to mandatory negotiations only. A separate mandatory negotiation period will commence for each fixed microwave licensee when an ET licensee informs that fixed microwave licensee in writing of its desire to negotiate. Mandatory negotiation periods are defined as follows:

(1) Non-public safety incumbents will have a two-year mandatory negotiation period; and

(2) Public safety incumbents will have a three-year mandatory negotiation period.

(d) The mandatory negotiation period is triggered at the option of the ET licensee. Once mandatory negotiations have begun, a PARS licensee may not refuse to negotiate and all parties are required to negotiate in good faith. * * *

(e) *Involuntary period.* After the end of the mandatory negotiation period, ET licensees may initiate involuntary relocation procedures under the Commission's rules. ***

(f) * * *

(g) * * *

(h) [Reserved]

(i) * * *

(j) *Sunset.* PARS licensees will maintain primary status in the 2110-2130 MHz and 2160-2180 MHz bands unless and until an ET licensee requires use of the spectrum. ET licensees are not required to pay relocation costs after the relocation rules sunset (*i.e.*, for the 2110-2130 MHz and 2160-2180 MHz bands, ten years after the first ET license is issued in the respective band). Once the relocation rules sunset, an ET licensee may require the incumbent to cease operations, provided that the ET licensee intends to turn on a system within interference range of the incumbent, as determined by TIA

TSB 10-F or any standard successor. ET licensee notification to the affected PARS licensee must be in writing and must provide the incumbent with no less than six months to vacate the spectrum. After the six-month notice period has expired, the PARS licensee must turn its license back into the Commission, unless the parties have entered into an agreement which allows the PARS licensee to continue to operate on a mutually agreed upon basis. If the parties cannot agree on a schedule or an alternative arrangement, requests for extension will be accepted and reviewed on a case-by-case basis. The Commission will grant such extensions only if the incumbent can demonstrate that:

(1) It cannot relocate within the six-month period (*e.g.*, because no alternative spectrum or other reasonable option is available), and;

(2) The public interest would be harmed if the incumbent is forced to terminate operations (*e.g.*, if public safety communications services would be disrupted).

* * *

(k) *Reimbursement and relocation expenses in the 2110-2130 MHz and 2160-2180 MHz bands.* Whenever an ET licensee in the 2110-2130 MHz and 2160-2180 MHz band relocates a paired PARS link with one path in the 2110-2130 MHz band and the paired path in the 2160-2180 MHz band, the ET license will be entitled to reimbursement pursuant to the procedures described in §§ 27.1160 through 27.1174 of this chapter.

* * * * *

PART 27 – MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES

The authority citation for Part 27 continues to read as follows:

Authority: 47 U.S.C. 154, 301, 302, 303, 307, 309, 332, 336, and 337 unless otherwise noted.

3. Section 27.1111 is revised to read as follows:

§ 27.1111 Relocation of fixed microwave service licensees in the 2110-2150 MHz band.

Part 22, subpart E and Part 101, subpart B of this chapter contain provisions governing the relocation of incumbent fixed microwave service licensees in the 2110-2150 MHz band.

4. Section 27.1132 is revised to read as follows:

§ 27.1132 Protection of incumbent operations in the 2150-2160/62 MHz band.

All AWS licensees, prior to initiating operations from any base or fixed station, shall follow the provisions of § 27.1255 of this part.

5. Part 27, Subpart L is revised by adding Sections 27.1160-27.1190 to read as follows:

The heading for Subpart L is revised to read as follows:

Subpart L – 1710-1755 MHz, 2110-2155 MHz, 2160-2180 MHz Bands

Section 27.1102, section heading is revised to read as follows:

§ 27.1102 Designated Entities in the 1710-1755 MHz and 2110-2155 MHz bands

New Sections 27.1160 through 27.1174 are added to Subpart L to read as follows:

COST-SHARING POLICIES GOVERNING MICROWAVE RELOCATION FROM THE 2110-2150 MHZ AND 2160-2200 MHZ BANDS

§ 27.1160 Cost-sharing requirements for AWS.

Frequencies in the 2110-2150 MHz and 2160-2180 MHz bands listed in § 101.147 of this chapter have been reallocated from Fixed Microwave Services (FMS) to use by AWS (as reflected in § 2.106). In accordance with procedures specified in § 22.602 and §§ 101.69 through 101.82 of this chapter, AWS entities are required to relocate the existing microwave licensees in these bands if interference to the existing microwave licensee would occur. All AWS entities that benefit from the clearance of this spectrum by other AWS entities or by a voluntarily relocating microwave incumbent must contribute to such relocation costs. AWS entities may satisfy their reimbursement requirement by entering into private cost-sharing agreements or agreeing to terms other than those specified in § 27.1164. However, AWS entities are required to reimburse other AWS entities or voluntarily relocating microwave incumbents that incur relocation costs and are not parties to the alternative agreement. In addition, parties to a private cost-sharing agreement may seek reimbursement through the clearinghouse (as discussed in § 27.1162) from AWS entities or other Emerging Technologies (ET) entities, including Mobile Satellite Service (MSS) operators (for Ancillary Terrestrial Component (ATC) base stations), that are not parties to the agreement. The cost-sharing plan is in effect during all phases of microwave relocation specified in §§ 22.602 and 101.69 of this chapter. If an AWS licensee enters into a spectrum leasing arrangement (as set forth in Part 1, subpart X of this chapter) and the spectrum lessee triggers a cost-sharing obligation, the licensee is the AWS entity responsible for satisfying the cost-sharing obligations under §§ 27.1160-27.1174.

§ 27.1162 Administration of the Cost-Sharing Plan.

The Wireless Telecommunications Bureau, under delegated authority, will select one or more entities to operate as a neutral, not-for-profit clearinghouse(s). This clearinghouse(s) will administer the cost-sharing plan by, *inter alia*, determining the cost-sharing obligation of AWS and other ET entities for the relocation of FMS incumbents from the 2110-2150 MHz and 2160-2200 MHz bands. The clearinghouse filing requirements (see §§ 27.1166(a), 27.1170) will not take effect until an administrator is selected.

§ 27.1164 The cost-sharing formula.

An AWS relocator who relocates an interfering microwave link, *i.e.*, one that is in all or part of its market area and in all or part of its frequency band or a voluntarily relocating microwave incumbent, is entitled to *pro rata* reimbursement based on the following formula:

$$RN = \frac{C}{N} \cdot \frac{[120 - (T_m)]}{120}$$

(a) *RN* equals the amount of reimbursement.

(b) *C* equals the actual cost of relocating the link(s). Actual relocation costs include, but are not limited to, such items as: Radio terminal equipment (TX and/or RX--antenna, necessary feed lines, MUX/Modems); towers and/or modifications; back-up power equipment; monitoring or control equipment; engineering costs (design/path survey); installation; systems testing; FCC filing costs; site acquisition and civil works; zoning costs; training; disposal of old equipment; test equipment (vendor

required); spare equipment; project management; prior coordination notification under § 101.103(d) of this chapter; site lease renegotiation; required antenna upgrades for interference control; power plant upgrade (if required); electrical grounding systems; Heating Ventilation and Air Conditioning (HVAC) (if required); alternate transport equipment; and leased facilities. Increased recurring costs represent part of the actual cost of relocation and, even if the compensation to the incumbent is in the form of a commitment to pay five years of charges, the AWS or MSS/ATC relocator is entitled to seek immediate reimbursement of the lump sum amount based on present value using current interest rates, provided it has entered into a legally binding agreement to pay the charges. *C* also includes voluntarily relocating microwave incumbent's independent third party appraisal of its compensable relocation costs and incumbent transaction expenses that are directly attributable to the relocation, subject to a cap of two percent of the "hard" costs involved. Hard costs are defined as the actual costs associated with providing a replacement system, such as equipment and engineering expenses. *C* may not exceed $250,000 per paired link, with an additional $150,000 permitted if a new or modified tower is required.

(c) *N* equals the number of AWS and MSS/ATC entities that have triggered a cost-sharing obligation. For the AWS relocator, N=1. For the next AWS entity triggering a cost-sharing obligation, N=2, and so on. In the case of a voluntarily relocating microwave incumbent, N=1 for the first AWS entity triggering a cost-sharing obligation. For the next AWS or MSS/ATC entity triggering a cost-sharing obligation, N =2, and so on.

(d) *Tm* equals the number of months that have elapsed between the month the AWS or MSS/ATC relocator or voluntarily relocating microwave incumbent obtains reimbursement rights for the link and the month in which an AWS entity triggers a cost-sharing obligation. An AWS or MSS/ATC relocator obtains reimbursement rights for the link on the date that it signs a relocation agreement with a microwave incumbent. A voluntarily relocating microwave incumbent obtains reimbursement rights for the link on the date that the incumbent notifies the Commission that it intends to discontinue, or has discontinued, the use of the link, pursuant to § 101.305 of the Commission's rules.

§ 27.1166 Reimbursement under the Cost-Sharing Plan.

(a) *Registration of reimbursement rights.* Claims for reimbursement under the cost-sharing plan are limited to relocation expenses incurred on or after the date when the first AWS license is issued in the relevant AWS band (start date). If a clearinghouse is not selected by that date (see § 27.1162) claims for reimbursement (see § 27.1166) and notices of operation (see § 27.1170) for activities that occurred after the start date but prior to the clearinghouse selection must be submitted to the clearinghouse within 30 calendar days of the selection date.

(1) To obtain reimbursement, an AWS relocator or MSS/ATC relocator must submit documentation of the relocation agreement to the clearinghouse within 30 calendar days of the date a relocation agreement is signed with an incumbent. In the case of involuntary relocation, an AWS relocator or MSS/ATC relocator must submit documentation of the relocated system within 30 calendar days after the end of the relocation.

(2) To obtain reimbursement, a voluntarily relocating microwave incumbent must submit documentation of the relocation of the link to the clearinghouse within 30 calendar days of the date that the incumbent notifies the Commission that it intends to discontinue, or has discontinued, the use of the link, pursuant to § 101.305 of the Commission's rules.

(b) *Documentation of expenses.* Once relocation occurs, the AWS relocator, MSS/ATC relocator, or the voluntarily relocating microwave incumbent, must submit documentation itemizing the amount spent for items specifically listed in § 27.1164(b), as well as any reimbursable items not specifically listed in § 27.1164(b) that are directly attributable to actual relocation costs. Specifically, the AWS

relocator, MSS/ATC relocator, or the voluntarily relocating microwave incumbent must submit, in the first instance, only the uniform cost data requested by the clearinghouse along with a copy, without redaction, of either the relocation agreement, if any, or the third party appraisal described in (b)(1), if relocation was undertaken by the microwave incumbent. AWS relocators, MSS/ATC relocators and voluntarily relocating microwave incumbents must maintain documentation of cost-related issues until the applicable sunset date and provide such documentation upon request, to the clearinghouse, the Commission, or entrants that trigger a cost-sharing obligation. If an AWS relocator pays a microwave incumbent a monetary sum to relocate its own facilities, the AWS relocator must estimate the costs associated with relocating the incumbent by itemizing the anticipated cost for items listed in § 27.1164(b). If the sum paid to the incumbent cannot be accounted for, the remaining amount is not eligible for reimbursement.

(1) *Third party appraisal.* The voluntarily relocating microwave incumbent, must also submit an independent third party appraisal of its compensable relocation costs. The appraisal should be based on the actual cost of replacing the incumbent's system with comparable facilities and should exclude the cost of any equipment upgrades or items outside the scope of § 27.1164(b).

(2) *Identification of links.* The AWS relocator, MSS/ATC relocator, or the voluntarily relocating microwave incumbent, must identify the particular link associated with appropriate expenses (i.e., costs may not be averaged over numerous links). Where the AWS relocator, MSS/ATC relocator, or voluntarily relocating microwave incumbent relocates both paths of a paired channel microwave link (*e.g.*, 2110-2130 MHz with 2160-2180 MHz and 2130-2150 MHz with 2180-2200 MHz), the AWS relocator, MSS/ATC relocator, or voluntarily relocating microwave incumbent must identify the expenses associated with each paired microwave link.

(c) *Full Reimbursement.* An AWS relocator who relocates a microwave link that is either fully outside its market area or its licensed frequency band may seek full reimbursement through the clearinghouse of compensable costs, up to the reimbursement cap as defined in § 27.1164(b). Such reimbursement will not be subject to depreciation under the cost-sharing formula.

(d) *Good Faith Requirement*. New entrants and incumbent licensees are expected to act in good faith in satisfying the cost-sharing obligations under §§ 27.1160-27.1174. The requirement to act in good faith extends to, but is not limited to, the preparation and submission of the documentation required in (b).

(e) *MSS Participation in the Clearinghouse.* MSS operators are not required to submit reimbursements to the clearinghouse for links relocated due to interference from MSS space-to-Earth downlink operations, but may elect to do so, in which case the MSS operator must identify the reimbursement claim as such and follow the applicable procedures governing reimbursement in Part 27. MSS reimbursement rights and cost-sharing obligations for space-to-Earth downlink operations are governed by § 101.82 of this chapter.

(f) *Reimbursement for Self-relocating FMS links in the 2130-2150 MHz and 2180-2200 MHz bands.* Where a voluntarily relocating microwave incumbent relocates a paired microwave link with paths in the 2130-2150 MHz and 2180-2200 MHz bands, it may not seek reimbursement from MSS operators (including MSS/ATC operators), but is entitled to partial reimbursement from the first AWS beneficiary, equal to fifty percent of its actual costs for relocating the paired link, or half of the reimbursement cap in § 27.1164(b), whichever is less. This amount is subject to depreciation as specified § 27.1164(b). An AWS licensee who is obligated to reimburse relocation costs under this rule is entitled to obtain reimbursement from other AWS beneficiaries in accordance with §§ 27.1164 and 27.1168. For purposes of applying the cost-sharing formula relative to other AWS licensees that benefit from the self-relocation, the fifty percent attributable to the AWS entrant shall be treated as the entire cost of the link relocation, and depreciation shall run from the date on which the

clearinghouse issues the notice of an obligation to reimburse the voluntarily relocating microwave incumbent. The cost-sharing obligations for MSS operators in the 2180-2200 MHz band are governed by § 101.82 of this chapter.

§ 27.1168 Triggering a Reimbursement Obligation.

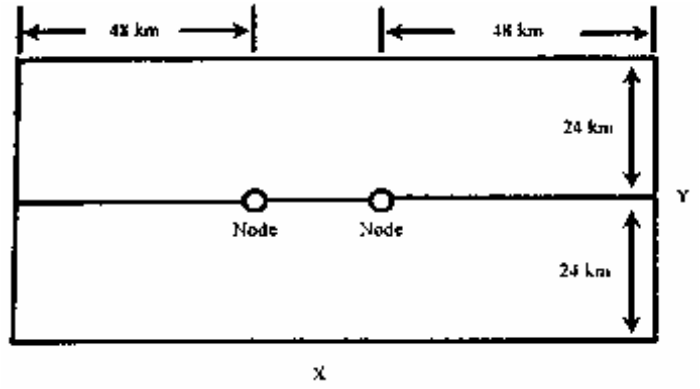
(a) The clearinghouse will apply the following test to determine when an AWS entity or MSS/ATC entity has triggered a cost-sharing obligation and therefore must pay an AWS relocator, MSS relocator (including MSS/ATC), or a voluntarily relocating microwave incumbent in accordance with the formula detailed in § 27.1164:

(1) All or part of the relocated microwave link was initially co-channel with the licensed AWS band(s) of the AWS entity or the selected assignment of the MSS operator that seeks and obtains ATC authority (see § 25.149(a)(2)(i) of this chapter);

(2) An AWS relocator, MSS relocator (including MSS/ATC) or a voluntarily relocating microwave incumbent has paid the relocation costs of the microwave incumbent; and

(3) The AWS or MSS entity is operating or preparing to turn on a fixed base station (including MSS/ATC) at commercial power and the fixed base station is located within a rectangle (Proximity Threshold) described as follows:

(i) The length of the rectangle shall be x where x is a line extending through both nodes of the microwave link to a distance of 48 kilometers (30 miles) beyond each node. The width of the rectangle shall be y where y is a line perpendicular to x and extending for a distance of 24 kilometers (15 miles) on both sides of x. Thus, the rectangle is represented as follows:



(ii) If the application of the Proximity Threshold Test indicates that a reimbursement obligation exists, the clearinghouse will calculate the reimbursement amount in accordance with the cost-sharing formula and notify the AWS or MSS/ATC entity of the total amount of its reimbursement obligation.

(b) Once a reimbursement obligation is triggered, the AWS or MSS/ATC entity may not avoid paying its cost-sharing obligation by deconstructing or modifying its facilities.

§ 27.1170 Payment Issues.

Prior to initiating operations for a newly constructed site or modified existing site, an AWS entity or MSS/ATC entity is required to file a notice containing site-specific data with the clearinghouse. The notice regarding the new or modified site must provide a detailed description of the proposed site's

spectral frequency use and geographic location, including but not limited to the applicant's name and address, the name of the transmitting base station, the geographic coordinates corresponding to that base station, the frequencies and polarizations to be added, changed or deleted, and the emission designator. If a prior coordination notice (PCN) under § 101.103(d) of this chapter is prepared, AWS entities can satisfy the site-data filing requirement by submitting a copy of their PCN to the clearinghouse. AWS entities or MSS/ATC entities that file either a notice or a PCN have a continuing duty to maintain the accuracy of the site-specific data on file with the clearinghouse. Utilizing the site-specific data, the clearinghouse will determine if any reimbursement obligation exists and notify the AWS entity or MSS/ATC entity in writing of its repayment obligation, if any. When the AWS entity or MSS/ATC entity receives a written copy of such obligation, it must pay directly to the relocator the amount owed within 30 calendar days.

§ 27.1172 Dispute Resolution Under the Cost-Sharing Plan.

(a) Disputes arising out of the cost-sharing plan, such as disputes over the amount of reimbursement required, must be brought, in the first instance, to the clearinghouse for resolution. To the extent that disputes cannot be resolved by the clearinghouse, parties are encouraged to use expedited Alternative Dispute Resolution (ADR) procedures, such as binding arbitration, mediation, or other ADR techniques.

(b) *Evidentiary requirement.* Parties of interest contesting the clearinghouse's determination of specific cost-sharing obligations must provide evidentiary support to demonstrate that their calculation is reasonable and made in good faith. Specifically, these parties are expected to exercise due diligence to obtain the information necessary to prepare an independent estimate of the relocation costs in question and to file the independent estimate and supporting documentation with the clearinghouse.

§ 27.1174 Termination of Cost-Sharing Obligations.

The cost-sharing plan will sunset for all AWS and MSS (including MSS/ATC) entities on the same date on which the relocation obligation for the subject AWS band (*i.e.,* 2110-2150 MHz, 2160-2175 MHz, or 2175-2180 MHz) in which the relocated FMS link was located terminates. AWS or MSS (including MSS/ATC) entrants that trigger a cost-sharing obligation prior to the sunset date must satisfy their payment obligation in full.

New Sections 27.1176 through 27.1190 are added to Subpart L to read as follows:

COST-SHARING POLICIES GOVERNING BROADBAND RADIO SERVICE RELOCATION FROM THE 2150-2160/62 MHZ BAND

§ 27.1176 Cost-sharing requirements for AWS in the 2150-2160/62 MHz band.

(a) Frequencies in the 2150-2160/62 MHz band have been reallocated from the Broadband Radio Service (BRS) to AWS. All AWS entities who benefit from another AWS entity's clearance of BRS incumbents from this spectrum, including BRS incumbents occupying the 2150-2162 MHz band on a primary basis, must contribute to such relocation costs. Only AWS entrants that relocate BRS incumbents are entitled to such reimbursement.

(b) AWS entities may satisfy their reimbursement requirement by entering into private cost-sharing agreements or agreeing to terms other than those specified in § 27.1180. However, AWS entities are required to reimburse other AWS entities that incur relocation costs and are not parties to the alternative agreement. In addition, parties to a private cost-sharing agreement may seek reimbursement through the clearinghouse (as discussed in § 27.1178) from AWS entities that are not

parties to the agreement. The cost-sharing plan is in effect during all phases of BRS relocation until the end of the period specified in § 27.1190. If an AWS licensee enters into a spectrum leasing arrangement and the spectrum lessee triggers a cost-sharing obligation, the licensee is the AWS entity responsible for satisfying cost-sharing obligations under these rules.

§ 27.1178 Administration of the Cost-Sharing Plan

The Wireless Telecommunications Bureau, under delegated authority, will select one or more entities to operate as a neutral, not-for-profit clearinghouse(s). This clearinghouse(s) will administer the cost-sharing plan by, *inter alia*, determining the cost-sharing obligations of AWS entities for the relocation of BRS incumbents from the 2150-2162 MHz band. The clearinghouse filing requirements (see §§ 27.1182(a), 27.1186) will not take effect until an administrator is selected.

§ 27.1180 The cost-sharing formula

(a) An AWS licensee that relocates a BRS system with which it interferes is entitled to *pro rata* reimbursement based on the cost-sharing formula specified in § 27.1164, except that the depreciation factor shall be [180 – Tm]/180, and the variable *C* shall be applied as set forth in paragraph (b).

(b) *C* is the actual cost of relocating the system, and includes, but is not limited to, such items as: Radio terminal equipment (TX and/or RX--antenna, necessary feed lines, MUX/Modems); towers and/or modifications; back-up power equipment; monitoring or control equipment; engineering costs (design/path survey); installation; systems testing; FCC filing costs; site acquisition and civil works; zoning costs; training; disposal of old equipment; test equipment (vendor required); spare equipment; project management; site lease renegotiation; required antenna upgrades for interference control; power plant upgrade (if required); electrical grounding systems; Heating Ventilation and Air Conditioning (HVAC) (if required); alternate transport equipment; leased facilities; and end user units served by the base station that is being relocated. In addition to actual costs, *C* may include the cost of an independent third party appraisal conducted pursuant to § 27.1182(a)(3) and incumbent transaction expenses that are directly attributable to the relocation, subject to a cap of two percent of the "hard" costs involved. Hard costs are defined as the actual costs associated with providing a replacement system, such as equipment and engineering expenses. There is no cap on the actual costs of relocation.

(c) An AWS system shall be considered an interfering system for purposes of this rule if the AWS system is in all or part of the BRS frequency band and operates within line of sight to BRS operations under the applicable test specified in § 27.1184. An AWS relocator that relocates a BRS system with which it does not interfere is entitled to full reimbursement, as specified in § 27.1182(c).

§ 27.1182 Reimbursement under the Cost-Sharing Plan

(a) *Registration of reimbursement rights.*

(1) To obtain reimbursement, an AWS relocator must submit documentation of the relocation agreement to the clearinghouse within 30 calendar days of the date a relocation agreement is signed with an incumbent. In the case of involuntary relocation, an AWS relocator must submit documentation of the relocated system within 30 calendar days after the end of the one-year trial period.

(2) Registration of any BRS system shall include (i) a description of the system's frequency use; (ii) if the system exclusively provides one-way transmissions to subscribers, the Geographic Service Area of the system; and (iii) if the system does not exclusively provide one-way transmission to subscribers, the system hub antenna's geographic location and the above ground

level height of the system's receiving antenna centerline.

(3) The AWS relocator must also include with its system registration an independent third party appraisal of the compensable relocation costs. The appraisal should be based on the actual cost of replacing the incumbent's system with comparable facilities and should exclude the cost of any equipment upgrades that are not necessary to the provision of comparable facilities. An AWS relocator may submit registration without a third party appraisal if it consents to binding resolution by the clearinghouse of any good faith cost disputes regarding the reimbursement claim, under the following standard: the relocator shall bear the burden of proof, and be required to demonstrate by clear and convincing evidence that its request does not exceed the actual cost of relocating the relevant BRS system or systems to comparable facilities. Failure to satisfy this burden of proof will result in loss of rights to subsequent reimbursement of the disputed costs from any AWS licensee.

(b) *Documentation of expenses.* Once relocation occurs, the AWS relocator must submit documentation itemizing the amount spent for items specifically listed in § 27.1180(b), as well as any reimbursable items not specifically listed in § 27.1180(b) that are directly attributable to actual relocation costs. Specifically, the AWS relocator must submit, in the first instance, only the uniform cost data requested by the clearinghouse along with copies, without redaction, of the relocation agreement, if any, and the third party appraisal described in (a)(3), if prepared. The AWS relocator must identify the particular system associated with appropriate expenses (*i.e.*, costs may not be averaged over numerous systems). If an AWS relocator pays a BRS incumbent a monetary sum to relocate its own facilities in whole or in part, the AWS relocator must itemize the actual costs to the extent determinable, and otherwise must estimate the actual costs associated with relocating the incumbent and itemize these costs. If the sum paid to the incumbent cannot be accounted for, the remaining amount is not eligible for reimbursement. All AWS relocators seeking reimbursement through the clearinghouse have an ongoing duty to maintain all relevant records of BRS relocation-related expenses until the sunset of cost-sharing obligations, and to provide, upon request, such documentation, including a copy of the independent appraisal if one was conducted, to the clearinghouse, the Commission, or AWS entrants that trigger a cost-sharing obligation.

(c) *Full reimbursement.* An AWS relocator who relocates a BRS system that is either (1) wholly outside its frequency band or (2) not within line of sight of the relocator's transmitting base station may seek full reimbursement through the clearinghouse of compensable costs. Such reimbursement will not be subject to depreciation under the cost-sharing formula.

(d) *Good Faith Requirement.* New entrants and incumbent licensees are expected to act in good faith in satisfying the cost-sharing obligations under §§ 27.1176-27.1190. The requirement to act in good faith extends to, but is not limited to, the preparation and submission of the documentation required in (b).

§ 27.1184 Triggering a reimbursement obligation.

(a) The clearinghouse will apply the following test to determine when an AWS entity has triggered a cost-sharing obligation and therefore must pay an AWS relocator of a BRS system in accordance with the formula detailed in § 27.1180:

(1) All or part of the relocated BRS system was initially co-channel with the licensed AWS band(s) of the AWS entity;

(2) An AWS relocator has paid the relocation costs of the BRS incumbent; and

(3) The other AWS entity has turned on or is preparing to turn on a fixed base station at

commercial power and the incumbent BRS system would have been within the line of sight of the AWS entity's fixed base station, as determined below.

(i) For a BRS system using the 2150-2160/62 MHz band exclusively to provide one-way transmissions to subscribers, the clearinghouse will determine whether there is an unobstructed signal path (line of sight) to the incumbent licensee's geographic service area (GSA), based on the following criteria: use of 9.1 meters (30 feet) for the receiving antenna height, use of the actual transmitting antenna height and terrain elevation, and assumption of 4/3 Earth radius propagation conditions. Terrain elevation data must be obtained from the U.S. Geological Survey (USGS) 3-second database. All coordinates used in carrying out the required analysis shall be based upon use of NAD-83.

(ii) For all other BRS systems using the 2150-2160/62 MHz band, the clearinghouse will determine whether there is an unobstructed signal path (line of sight) to the incumbent licensee's receive station hub using the method prescribed in "Methods for Predicting Interference from Response Station Transmitters and to Response Station Hubs and for Supplying Data on Response Station Systems. MM Docket 97-217," in Amendment of Parts 1, 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions, MM Docket No. 97-217, *Report and Order on Further Reconsideration and Further Notice of Proposed Rulemaking*, 15 FCC Rcd 14566 at 14610, Appendix D.

(b) If the application of the trigger test described above indicates that a reimbursement obligation exists, the clearinghouse will calculate the reimbursement amount in accordance with the cost-sharing formula and notify the subsequent AWS entity of the total amount of its reimbursement obligation.

(c) Once a reimbursement obligation is triggered, the AWS entity may not avoid paying its cost-sharing obligation by deconstructing or modifying its facilities.

§ 27.1186 Payment issues

Payment of cost-sharing obligations for the relocation of BRS systems in the 2150-60/62 MHz band is subject to the rules set forth in § 27.1170. If an AWS licensee is initiating operations for a newly constructed site or modified existing site in licensed bands overlapping the 2150-2160/62 MHz band, the AWS licensee must file with the clearinghouse, in addition to the site-specific data required by § 27.1170, the above ground level height of the transmitting antenna centerline. AWS entities have a continuing duty to maintain the accuracy of the site-specific data on file with the clearinghouse.

§ 27.1188 Dispute resolution under the Cost-Sharing Plan

(a) Disputes arising out of the cost-sharing plan, such as disputes over the amount of reimbursement required, must be brought, in the first instance, to the clearinghouse for resolution. To the extent that disputes cannot be resolved by the clearinghouse, parties are encouraged to use expedited Alternative Dispute Resolution (ADR) procedures, such as binding arbitration, mediation, or other ADR techniques.

(b) *Evidentiary requirement.* Parties of interest contesting the clearinghouse's determination of specific cost-sharing obligations must provide evidentiary support to demonstrate that their calculation is reasonable and made in good faith. Specifically, these parties are expected to exercise due diligence to obtain the information necessary to prepare an independent estimate of the relocation costs in question and to file the independent estimate and supporting documentation with the clearinghouse.

§ 27.1190 Termination of cost-sharing obligations.

The plan for cost-sharing in connection with BRS relocation will sunset for all AWS entities fifteen years after the relocation sunset period for BRS relocation commences, *i.e.*, fifteen years after the first AWS licenses are issued in any part of the 2150-2162 MHz band. AWS entrants that trigger a cost-sharing obligation prior to the sunset date must satisfy their payment obligation in full.

6. Part 27, Subpart M is revised by adding Sections 27.1250 through 27.1255 to read as follows:

RELOCATION PROCEDURES FOR THE 2150-2160/62 MHZ BAND

§ 27.1250 Transition of the 2150-2160/62 MHz band from the Broadband Radio Service to the Advanced Wireless Service.

The 2150-2160/62 MHz band has been allocated for use by the Advanced Wireless Service (AWS). The rules in this section provide for a transition period during which AWS licensees may relocate existing Broadband Radio Service (BRS) licensees using these frequencies to their assigned frequencies in the 2496-2690 MHz band or other media.

(a) AWS licensees and BRS licensees shall engage in mandatory negotiations for the purpose of agreeing to terms under which the BRS licensees would:

(1) Relocate their operations to other frequency bands or other media; or alternatively

(2) Accept a sharing arrangement with the AWS licensee that may result in an otherwise impermissible level of interference to the BRS operations.

(b) If no agreement is reached during the mandatory negotiation period, an AWS licensee may initiate involuntary relocation procedures. Under involuntary relocation, the incumbent is required to relocate, provided that the AWS licensee meets the conditions of § 27.1252.

(c) Relocation of BRS licensees by AWS licensees will be subject to a three-year mandatory negotiation period. BRS licensees may suspend the running of the three-year negotiation period for up to one year if the BRS licensee cannot be relocated to comparable facilities at the time the AWS licensee seeks entry into the band.

§ 27.1251 Mandatory Negotiations.

(a) Once mandatory negotiations have begun, a BRS licensee may not refuse to negotiate and all parties are required to negotiate in good faith. Good faith requires each party to provide information to the other that is reasonably necessary to facilitate the relocation process. The BRS licensee is required to cooperate with an AWS licensee's request to provide access to the facilities to be relocated, other than the BRS customer location, so that an independent third party can examine the BRS system and prepare an appraisal of the costs to relocate the incumbent. In evaluating claims that a party has not negotiated in good faith, the FCC will consider, *inter alia*, the following factors:

(1) Whether the AWS licensee has made a bona fide offer to relocate the BRS licensee to comparable facilities in accordance with § 27.1252(b);

(2) If the BRS licensee has demanded a premium, the type of premium requested (*e.g.*, whether the premium is directly related to relocation, such as analog-to-digital conversions, versus other types of premiums), and whether the value of the premium as compared to the cost of providing comparable facilities is disproportionate (*i.e.*, whether there is a lack of proportion or relation between the two);

(3) What steps the parties have taken to determine the actual cost of relocation to comparable facilities;

(4) Whether either party has withheld information requested by the other party that is necessary to estimate relocation costs or to facilitate the relocation process.

(b) Any party alleging a violation of our good faith requirement must attach an independent estimate of the relocation costs in question to any documentation filed with the Commission in support of its claim. An independent cost estimate must include a specification for the comparable facility and a statement of the costs associated with providing that facility to the incumbent licensee.

(c) Mandatory negotiations will commence for each BRS licensee when the AWS licensee informs the BRS licensee in writing of its desire to negotiate. Mandatory negotiations will be conducted with the goal of providing the BRS licensee with comparable facilities, defined as facilities possessing the following characteristics:

(1) *Throughput*. Communications throughput is the amount of information transferred within a system in a given amount of time. System is defined as a base station and all end user units served by that base station. If analog facilities are being replaced with analog, comparable facilities may provide a comparable number of channels. If digital facilities are being replaced with digital, comparable facilities provide equivalent data loading bits per second (bps).

(2) *Reliability*. System reliability is the degree to which information is transferred accurately within a system. Comparable facilities provide reliability equal to the overall reliability of the BRS system. For digital systems, reliability is measured by the percent of time the bit error rate (BER) exceeds a desired value, and for analog or digital video transmission, it is measured by whether the end-to-end transmission delay is within the required delay bound. If an analog system is replaced with a digital system, only the resulting frequency response, harmonic distortion, signal-to-noise ratio and its reliability will be considered in determining comparable reliability.

(3) *Operating Costs*. Operating costs are the cost to operate and maintain the BRS system. AWS licensees would compensate BRS licensees for any increased recurring costs associated with the replacement facilities (*e.g.*, additional rental payments, and increased utility fees) for five years after relocation. AWS licensees could satisfy this obligation by making a lump-sum payment based on present value using current interest rates. Additionally, the maintenance costs to the BRS licensee would be equivalent to the replaced system in order for the replacement system to be comparable.

(d) AWS licensees are responsible for the relocation costs of end user units served by the BRS base station that is being relocated. If a lessee is operating under a BRS license, the BRS licensee may rely on the throughput, reliability, and operating costs of facilities in use by a lessee in negotiating comparable facilities and may include the lessee in negotiations.

§ 27.1252 Involuntary Relocation Procedures.

(a) If no agreement is reached during the mandatory negotiation period, an AWS licensee may initiate involuntary relocation procedures under the Commission's rules. AWS licensees are obligated to pay to relocate BRS systems to which the AWS system poses an interference problem. Under involuntary relocation, the BRS licensee is required to relocate, provided that the AWS licensee:

(1) Guarantees payment of relocation costs, including all engineering, equipment, site and FCC fees, as well as any legitimate and prudent transaction expenses incurred by the BRS licensee that are directly attributable to an involuntary relocation, subject to a cap of two percent of the "hard"

costs involved. Hard costs are defined as the actual costs associated with providing a replacement system, such as equipment and engineering expenses. There is no cap on the actual costs of relocation. AWS licensees are not required to pay BRS licensees for internal resources devoted to the relocation process. AWS licensees are not required to pay for transaction costs incurred by BRS licensees during the mandatory period once the involuntary period is initiated, or for fees that cannot be legitimately tied to the provision of comparable facilities; and

(2) Completes all activities necessary for implementing the replacement facilities, including engineering and cost analysis of the relocation procedure and, if radio facilities are used, identifying and obtaining, on the incumbents' behalf, new microwave frequencies and frequency coordination.

(b) Comparable facilities. The replacement system provided to an incumbent during an involuntary relocation must be at least equivalent to the existing BRS system with respect to the following three factors:

(1) *Throughput*. Communications throughput is the amount of information transferred within a system in a given amount of time. System is defined as a base station and all end user units served by that base station. If analog facilities are being replaced with analog, the AWS licensee is required to provide the BRS licensee with a comparable number of channels. If digital facilities are being replaced with digital, the AWS licensee must provide the BRS licensee with equivalent data loading bits per second (bps). AWS licensees must provide BRS licensees with enough throughput to satisfy the BRS licensee's system use at the time of relocation, not match the total capacity of the BRS system.

(2) *Reliability*. System reliability is the degree to which information is transferred accurately within a system. AWS licensees must provide BRS licensees with reliability equal to the overall reliability of their system. For digital data systems, reliability is measured by the percent of time the bit error rate (BER) exceeds a desired value, and for analog or digital video transmissions, it is measured by whether the end-to-end transmission delay is within the required delay bound.

(3) *Operating costs*. Operating costs are the cost to operate and maintain the BRS system. AWS licensees must compensate BRS licensees for any increased recurring costs associated with the replacement facilities (*e.g.,* additional rental payments, increased utility fees) for five years after relocation. AWS licensees may satisfy this obligation by making a lump-sum payment based on present value using current interest rates. Additionally, the maintenance costs to the BRS licensee must be equivalent to the replaced system in order for the replacement system to be considered comparable.

(c) AWS licensees are responsible for the relocation costs of end user units served by the BRS base station that is being relocated. If a lessee is operating under a BRS license, the AWS licensee shall on the throughput, reliability, and operating costs of facilities in use by a lessee at the time of relocation in determining comparable facilities for involuntary relocation purposes.

(d) *Twelve-month trial period*. If, within one year after the relocation to new facilities, the BRS licensee demonstrates that the new facilities are not comparable to the former facilities, the AWS licensee must remedy the defects or pay to relocate the BRS licensee to one of the following: its former or equivalent 2 GHz channels, another comparable frequency band, a land-line system, or any other facility that satisfies the requirements specified in paragraph (b) of this section. This trial period commences on the date that the BRS licensee begins full operation of the replacement system. If the BRS licensee has retained its 2 GHz authorization during the trial period, it must return the license to the Commission at the end of the twelve months.

§ 27.1253 Sunset Provisions.

(a) BRS licensees will maintain primary status in the 2150-2160/62 MHz band unless and until an AWS licensee requires use of the spectrum. AWS licensees are not required to pay relocation costs

after the relocation rules sunset (*i.e.* fifteen years from the date the first AWS license is issued in the band). Once the relocation rules sunset, an AWS licensee may require the incumbent to cease operations, provided that the AWS licensee intends to turn on a system within interference range of the incumbent, as determined by § 27.1255. AWS licensee notification to the affected BRS licensee must be in writing and must provide the incumbent with no less than six months to vacate the spectrum. After the six-month notice period has expired, the BRS licensee must turn its license back into the Commission, unless the parties have entered into an agreement which allows the BRS licensee to continue to operate on a mutually agreed upon basis.

(b) If the parties cannot agree on a schedule or an alternative arrangement, requests for extension will be accepted and reviewed on a case-by-case basis. The Commission will grant such extensions only if the incumbent can demonstrate that:

(1) It cannot relocate within the six-month period (*e.g.*, because no alternative spectrum or other reasonable option is available), and;

(2) The public interest would be harmed if the incumbent is forced to terminate operations.

§ 27.1254 Eligibility.

(a) BRS licensees with primary status in the 2150-2162 MHz band as of [**effective date of Ninth R&O**] will be eligible for relocation insofar as they have facilities that are constructed and in use as of this date.

(b) *Future Licensing and Modifications.* After [**effective date of Ninth R&O**], all major modifications to existing BRS systems in use in the 2150-2160/62 MHz band will be authorized on a secondary basis to AWS systems, unless the incumbent affirmatively justifies primary status and the incumbent BRS licensee establishes that the modification would not add to the relocation costs of AWS licensees. Major modifications include the following:

(1) Additions of new transmit sites or base stations made after [**effective date of Ninth R&O**];

(2) Changes to existing facilities made after [**effective date of Ninth R&O**] that would increase the size or coverage of the service area, or interference potential, and that would also increase the throughput of an existing system (*e.g.,* sector splits in the antenna system). Modifications to fully utilize the existing throughput of existing facilities (*e.g.,* to add customers) will not be considered major modifications even if such changes increase the size or coverage of the service area, or interference potential.

§ 27.1255 Relocation Criteria for Broadband Radio Service Licensees in the 2150-2160/62 MHz band.

(a) An AWS licensee in the 2150-2160/62 MHz band, prior to initiating operations from any base or fixed station that is co-channel to the 2150-2160/62 MHz band, must relocate any incumbent BRS system that is within the line of sight of the AWS licensee's base or fixed station. For purposes of this section, a determination of whether an AWS facility is within the line of sight of a BRS system will be made as follows:

(1) For a BRS system using the 2150-2160/62 MHz band exclusively to provide one-way transmissions to subscribers, the AWS licensee will determine whether there is an unobstructed signal path (line of sight) to the incumbent licensee's geographic service area (GSA), based on the following criteria: use of 9.1 meters (30 feet) for the receiving antenna height, use of the actual transmitting antenna height and terrain elevation, and assumption of 4/3 Earth radius propagation

conditions. Terrain elevation data must be obtained from the U.S. Geological Survey (USGS) 3-second database. All coordinates used in carrying out the required analysis shall be based upon use of NAD-83.

(2) For all other BRS systems using the 2150-2160/62 MHz band, the AWS licensee will determine whether there is an unobstructed signal path (line of sight) to the incumbent licensee's receive station hub using the method prescribed in "Methods for Predicting Interference from Response Station Transmitters and to Response Station Hubs and for Supplying Data on Response Station Systems. MM Docket 97-217," in Amendment of Parts 1, 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions, MM Docket No. 97-217, *Report and Order on Further Reconsideration and Further Notice of Proposed Rulemaking*, 15 FCC Rcd 14566 at 14610, Appendix D.

(b) Any AWS licensee in the 2110-2180 MHz band that causes actual and demonstrable interference to a BRS licensee in the 2150-2160/62 MHz band must take steps to eliminate the harmful interference, up to and including relocation of the BRS licensee, regardless of whether it would be required to do so under paragraph (a), above.

* * * * *

PART 101 – FIXED MICROWAVE SERVICES

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

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

8. Section 101.69 is amended by removing and reserving paragraphs (b) and (c) and adding paragraph (g) to read as follows:

§ 101.69 Transition of the 1850-1990 MHz, 2110-2150 MHz, and 2160-2200 MHz bands from the fixed microwave services to personal communications services and emerging technologies.

***

(b) [Reserved]

(c) [Reserved]

* * *

(g) If no agreement is reached during the mandatory negotiation period, an ET licensee may initiate involuntary relocation procedures. Under involuntary relocation, the incumbent is required to relocate, provided that the ET licensee meets the conditions of § 101.75.

9. Section 101.71 is reserved.

§ 101.71 [Reserved]

10. Section 101.73 is amended by revising paragraphs (a) and (d) to read as follows:

§ 101.73 Mandatory Negotiations.

(a) A mandatory negotiation period may be initiated at the option of the ET licensee. Relocation of FMS licensees by Mobile Satellite Service (MSS) operators (including MSS operators providing

Ancillary Terrestrial Component (ATC) service) and AWS licensees in the 2110-2150 MHz and 2160-2200 MHz bands will be subject to mandatory negotiations only.

* * *

(d) *Provisions for Relocation of Fixed Microwave Licensees in the 2110-2150 and 2160-2200 MHz bands.* Except as otherwise provided in §101.69(e) pertaining to FMS relocations by MSS/ATC operators, a separate mandatory negotiation period will commence for each FMS licensee when an ET licensee informs that FMS licensee in writing of its desire to negotiate. Mandatory negotiations will be conducted with the goal of providing the FMS licensee with comparable facilities defined as facilities possessing the following characteristics: ***

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11. Section 101.75 is amended by revising paragraph (a) to read as follows:

§ 101.75 Involuntary relocation procedures.

(a) If no agreement is reached during the mandatory negotiation period, an ET licensee may initiate involuntary relocation procedures under the Commission's rules. ***

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12. Section 101.77 is amended by revising paragraph (a) to read as follows:

§ 101.77 Public safety licensees in the 1850-1990 MHz, 2110-2150 MHz, and 2160-2200 MHz bands.

(a) In order for public safety licensees to qualify for a three year mandatory negotiation period as defined in § 101.69(d)(2), the department head responsible for system oversight must certify to the ET licensee requesting relocation that: ***

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13. Section 101.79 is amended by revising paragraph (a) to read as follows:

§ 101.79 Sunset provisions for licensees in the 1850-1990 MHz, 2110-2150 MHz, and 2160-2200 MHz bands.

(a) FMS licensees will maintain primary status in the 1850–1990 MHz, 2110–2150 MHz, and 2160–2200 MHz bands unless and until an ET licensee (including MSS/ATC operator) requires use of the spectrum. ET licensees are not required to pay relocation costs after the relocation rules sunset. Once the relocation rules sunset, an ET licensee may require the incumbent to cease operations, provided that the ET licensee intends to turn on a system within interference range of the incumbent, as determined by TIA TSB 10-F (for terrestrial-to-terrestrial situations) or TIA TSB 86 (for MSS satellite-to-terrestrial situations) or any standard successor. ET licensee notification to the affected FMS licensee must be in writing and must provide the incumbent with no less than six months to vacate the spectrum. After the six-month notice period has expired, the FMS licensee must turn its license back into the Commission, unless the parties have entered into an agreement which allows the FMS licensee to continue to operate on a mutually agreed upon basis. The date that the relocation rules sunset is determined as follows:

(1) For the 2110-2150 MHz and 2160-2175 MHz and 2175-2180 MHz bands, ten years after the first ET license is issued in the respective band; and

(2) For the 2180–2200 MHz band, December 8, 2013 (*i.e.,* ten years after the mandatory negotiation period begins for MSS/ATC operators in the service).

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14. Section 101.82 is amended to read as follows:

§ 101.82 Reimbursement and relocation expenses in the 2110-2150 MHz and 2160-2200 MHz bands.

(a) Reimbursement and relocation expenses for the 2110-2130 MHz and 2160-2180 MHz bands are addressed in §§ 27.1160 – 27.1174.

(b) *Cost-sharing obligations between AWS and MSS (space-to-Earth downlink)*. Whenever an ET licensee (AWS or Mobile Satellite Service for space-to-Earth downlink in the 2130–2150 or 2180–2200 MHz bands) relocates an incumbent paired microwave link with one path in the 2130–2150 MHz band and the paired path in the 2180–2200 MHz band, the relocator is entitled to reimbursement of 50 percent of its relocation costs (see paragraph (e)) from any other AWS licensee or MSS space-to-Earth downlink operator which would have been required to relocate the same fixed microwave link as set forth in paragraphs (c) and (d).

(c) *Cost-sharing obligations for MSS (space-to-Earth downlinks)*. For an MSS space-to-Earth downlink, the cost-sharing obligation is based on the interference criteria for relocation, *i.e.,* TIA TSB 86 or any standard successor, relative to the relocated microwave link. Subsequently entering MSS space-to-Earth downlink operators must reimburse AWS or MSS space-to-Earth relocators (see paragraph (e)) before the later entrant may begin operations in these bands, unless the later entrant can demonstrate that it would not have interfered with the microwave link in question.

(d) *Cost-sharing obligations among terrestrial stations*. For terrestrial stations (AWS and MSS Ancillary Terrestrial Component (ATC)), cost-sharing obligations are governed by §§ 27.1160 – 27.1174 of this chapter; provided, however, that MSS operators (including MSS/ATC operators) are not obligated to reimburse voluntarily relocating FMS incumbents in the 2180-2200 MHz band. (AWS reimbursement and cost-sharing obligations relative to voluntarily relocating FMS incumbents are governed by § 27.1166 of this chapter).

(e) The total costs of which 50 percent is to be reimbursed will not exceed $250,000 per paired fixed microwave link relocated, with an additional $150,000 permitted if a new or modified tower is required.

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APPENDIX B

FINAL REGULATORY FLEXIBILITY ANALYSIS

(*For Ninth Report and Order*)

As required by the Regulatory Flexibility Act, as amended (RFA),[409] an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Fifth Notice of Proposed Rule Making* (*Fifth Notice*) in ET Docket 00-258.[410] The Commission sought written public comment on the proposals in the *Fifth Notice*, including comment on the IRFA. This Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.[411]

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

The *Ninth Report and Order* (*Ninth R&O*) adopts relocation procedures to govern the relocation of: (1) Broadband Radio Service (BRS)[412] licensees in the 2150-2160/62 MHz band; and (2) Fixed Microwave Service (FS) licensees in the 2110-2150 MHz and 2160-2180 MHz bands. The *Ninth R&O* also adopts cost sharing rules that identify the reimbursement obligations for Advanced Wireless Service (AWS) and Mobile Satellite Service (MSS) entrants benefiting from the relocation of FS operations in the 2110-2150 MHz band 2160-2200 MHz band and AWS entrants benefiting from the relocation of BRS operations in the 2150-2160/62 MHz band. The adopted relocation and cost sharing procedures generally follow the Commission's relocation and cost sharing policies delineated in the *Emerging Technologies* proceeding, and as modified by subsequent decisions.[413] These relocation policies are designed to allow early entry for new technology providers by allowing providers of new services to negotiate financial arrangements for reaccommodation of incumbent licensees, and have been tailored to set forth specific relocation schemes appropriate for a variety of different new entrants, including AWS, MSS, Personal Communications Service (PCS) licensees, 18 GHz Fixed Satellite Service (FSS) licensees, and Sprint Nextel. While these new entrants occupy different frequency bands, each entrant has had to relocate

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[409] *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).

[410] Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, ET Docket No. 00-258, *Eighth Report and Order, Fifth Notice of Proposed Rule Making and Order*, 20 FCC Rcd 15866 (2005).

[411] 5 U.S.C. § 604.

[412] The Multipoint Distribution Service (MDS) was renamed the Broadband Radio Service (BRS). *See* Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 MHz Band, WT Docket No. 03-66, *Report and Order and Further Notice of Proposed Rulemaking*, 19 FCC Rcd 14165 (2004).

[413] *See* Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, ET Docket No. 92-9, *First Report and Order and Third Notice of Proposed Rule Making*, 7 FCC Rcd 6886 (1992); *Second Report and Order*, 8 FCC Rcd 6495 (1993); *Third Report and Order and Memorandum Opinion and Order*, 8 FCC Rcd 6589 (1993); *Memorandum Opinion and Order*, 9 FCC Rcd 1943 (1994); *Second Memorandum Opinion and Order*, 9 FCC Rcd 7797 (1994); *aff'd Association of Public Safety Communications Officials-International, Inc. v. FCC*, 76 F.3d 395 (D.C. Cir. 1996) (collectively, "*Emerging Technologies* proceeding"). *See also Teledesic, LLC v. FCC*, 275 F.3d 75 (D.C. Cir. 2001) (affirming modified relocation scheme for new satellite entrants to the 17.7 – 19.7 GHz band). *See also* Amendment to the Commission's Rules Regarding a Plan for Sharing the Costs of Microwave Relocation, WT Docket No. 95-157, *First Report and Order and Further Notice of Proposed Rule Making* , 11 FCC Rcd 8825 (1996); *Second Report and Order*, 12 FCC Rcd 2705 (1997) (collectively, *Microwave Cost Sharing* proceeding).

incumbent operations. The relocation and cost sharing procedures we adopt in the *Ninth R&O* are designed to ensure an orderly and expeditious transition of, with minimal disruption to, incumbent BRS operations from the 2150-2160/62 MHz band and FS operations from the 2110-2150 MHz and 2160-2180 MHz bands, in order to allow early entry for new AWS licensees into these bands.

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

One comment was filed in response to the *Order* portion of the *Eighth Report and Order, Fifth Notice of Proposed Rule Making and Order*, objecting to the suggestion by some commenters to the *Fifth Notice* that the BRS entities should submit an estimate of the costs necessary to relocate the BRS entities' stations. The Wireless Communications Association International, Inc. objects to the imposition of any future information disclosure obligations on BRS channel 1 and 2 licensees regarding their relocation costs because it would require BRS licensees to speculate as to future events, conduct extensive due diligence to identify information that is not presently within their possession, or provide AWS auction participants with commercially sensitive information that could be utilized by AWS auction winners to the detriment of BRS licensees and lessees. In this *Ninth R&O*, the Commission decides not to require BRS licensees to submit an estimate of their relocation costs. Accordingly, we need not further address WCA's comments for purposes of this FRFA.

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 adopted herein.[414] The RFA defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[415] 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.[416] 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).[417]

Broadband Radio Service. The Broadband Radio Service (BRS) consists of Multichannel Multipoint Distribution Service (MMDS) systems, which were originally licensed to transmit video programming to subscribers using the microwave frequencies of Multipoint Distribution Service (MDS) and Instructional Television Fixed Service (ITFS).[418] In connection with the 1996 MDS auction, the

[414] 5 U.S.C. § 604(a)(3).

[415] 5 U.S.C. § 601(6).

[416] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

[417] 15 U.S.C. § 632.

[418] 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, *Report and Order*, 10 FCC Rcd 9589, 9593, ¶ 7 (1995) ("*MDS Auction R&O*"). The MDS and ITFS was renamed the Broadband Radio Service (BRS) and Educational Broadband Service (EBS), respectively. *See* Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 MHz Band, WT Docket No. 03-66, *Report and Order and Further Notice of Proposed Rulemaking*, 19 FCC Rcd (continued….)

Commission defined "small business" as an entity that, together with its affiliates, has average gross annual revenues that are not more than $40 million for the preceding three calendar years. The SBA has approved of this standard.[419] The MDS auction resulted in 67 successful bidders obtaining licensing opportunities for 493 Basic Trading Areas (BTAs).[420] Of the 67 auction winners, 61 claimed status as a small business. At this time, we estimate that of the 61 small business MDS auction winners, 48 remain small business licensees. In addition to the 48 small businesses that hold BTA authorizations, there are approximately 392 incumbent MDS licensees that have gross revenues that are not more than $40 million and are thus considered small entities.[421]

In addition, the SBA has developed a small business size standard for Cable and Other Program Distribution,[422] which includes all such companies generating $13.5 million or less in annual receipts.[423] According to Census Bureau data for 1997, there were a total of 1,311 firms in this category that had operated for the entire year.[424] Of this total, 1,180 firms had annual receipts of under $10 million, and an additional 52 firms had receipts of $10 million or more but less than $25 million.[425] Consequently, we estimate that the majority of providers in this service category are small businesses that may be affected by the proposed rules and policies. Because the Commission's action only affects MDS operations in the 2155-2160/62 MHz band, the actual number of MDS providers who will be affected by the proposed reallocation will only represent a small fraction of these small businesses.

Fixed Microwave Services. Microwave services include common carrier,[426] private-operational fixed,[427] and broadcast auxiliary radio services.[428] At present, there are approximately 36,708 common

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14165 (2004).

[419] *See* Letter to Margaret Wiener, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, FCC, from Gary Jackson, Assistant Administrator for Size Standards, Small Business Administration (dated Mar. 20, 2003) (noting approval of $40 million size standard for MDS auction).

[420] Basic Trading Areas (BTAs) were designed by Rand McNally and are the geographic areas by which MDS was auctioned and authorized. *See MDS Auction R&O*, 10 FCC Rcd at 9608, ¶ 34.

[421] 47 U.S.C. § 309(j). Hundreds of stations were licensed to incumbent MDS licensees prior to implementation of section 309(j) of the Communications Act of 1934, 47 U.S.C. § 309(j). For these pre-auction licenses, the applicable standard is SBA's small business size standard for "other telecommunications" (annual receipts of $13.5 million or less). *See* 13 C.F.R. § 121.201, NAICS code 517910.

[422] 13 C.F.R. § 121.201, NAICS code 517510.

[423] *Id.*

[424] U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization)," Table 4 (issued October 2000).

[425] *Id.*

[426] 47 C.F.R. Part 101 *et seq*. (formerly, part 21 of the Commission's Rules) for common carrier fixed microwave services (except MDS).

[427] 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.

[428] 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 (continued….)

carrier fixed licensees and 59,291 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services. The Commission has not yet defined a small business with respect to microwave services. For purposes of the 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.[429] According to Census Bureau data for 1997, there were 977 firms in this category, total, that operated for the entire year.[430] 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.[431] Thus, under this size standard, 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.

Advanced Wireless Service (AWS). We do not yet know how many applicants or licensees in the 2110-2150 MHz and 2160-2200 MHz bands will be small entities. Thus, the Commission assumes, for purposes of this FRFA, that all prospective licensees are small entities as that term is defined by the SBA or by our two special small business size standards for these bands. Although we do not know for certain which entities are likely to apply for these frequencies, we note that the AWS bands are comparable to those used for cellular service and personal communications service.

Wireless Telephony Including Cellular, Personal Communications Service (PCS) and SMR Telephony Carriers. The SBA has developed a small business size standard for wireless small businesses within the two separate categories of *Paging*[432] and *Cellular and Other Wireless Telecommunications*.[433] Under both SBA categories, a wireless business is small if it has 1,500 or fewer employees. According to the Commission's most recent data,[434] 1,012 companies reported that they were engaged in the provision of wireless service. Of these 1,012 companies, an estimated 829 have 1,500 or fewer employees and 183 have more than 1,500 employees.[435] Consequently, the Commission estimates that most wireless service providers are small entities that may be affected by the rules and policies adopted herein.

Mobile Satellite Service. There are currently two space-station authorizations for Mobile Satellite Service (MSS) systems that would operate with 2 GHz mobile Earth stations. Although we know the number and identity of the space-station operators, neither the number nor the identity of future 2 GHz mobile-Earth-station licensees can be determined from that data. The Commission notes that small businesses are not likely to have the financial ability to become MSS system operators because of the high implementation costs, including construction of satellite space stations and rocket launch, associated with satellite systems and services.

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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.

[429] 13 C.F.R. § 121.201, NAICS code 517212.

[430] 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).

[431] *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."

[432] 13 C.F.R. § 121.201, North American Industry Classification System (NAICS) code 517211 (changed from 513321 in October 2002).

[433] 13 C.F.R. § 121.201, North American Industry Classification System (NAICS) code 517212 (changed from 513322 in October 2002).

[434] FCC, Wireline Competition Bureau, Industry Analysis and Technology Division, "Trends in Telephone Service", Table 5.3, page 5-5 (June 2005). This source uses data that are current as of October 1, 2004.

[435] *Id*.

D. Description of Projected Reporting, Record Keeping, and Other Compliance Requirements for Small Entities

The *Ninth R&O* adopts relocation and cost-sharing procedures applicable to AWS licensees relative to incumbent BRS licensees in the 2150-2160/62 MHz band and incumbent FS licensees in the 2110-2130 MHz and 2160-2180 MHz bands, and AWS and MSS/ATC relative to incumbent FS licensees in the 2130-2150 MHz and 2180-2200 MHz bands, but does not adopt service rules. The *Ninth R&O* includes requirements for interference analyses (for FS) and line-of-sight determinations (for BRS), as well as good faith negotiations for relocation purposes. All AWS entities that benefit from the clearance of this spectrum by other AWS entities or by a voluntarily relocating microwave incumbent must contribute to such relocation costs. AWS entities may satisfy their reimbursement requirement by entering into private cost-sharing agreements. These negotiations are likely to require the skills of accountants and engineers to evaluate the economic and technical requirements of relocation. AWS entities are required to reimburse other AWS entities or voluntarily relocating microwave incumbents that incur relocation costs and are not parties to the alternative agreement. In addition, parties to a private cost-sharing agreement may seek reimbursement through the clearinghouse. To obtain reimbursement, the relocator must submit documentation itemizing relocation costs to the clearinghouse in the form of uniform cost data along with a copy, without redaction, of the relocation agreement, if relocation was undertaken pursuant to a negotiated contract. A third party appraisal of relocation costs must be prepared and submitted to the clearinghouse by AWS relocators of BRS systems and by voluntarily relocating microwave incumbents. AWS relocators, MSS/ATC relocators and voluntarily relocating microwave incumbents must maintain documentation of cost-related issues until the applicable sunset date and provide such documentation upon request, to the clearinghouse, the Commission, or entrants that trigger a cost sharing obligation.

AWS entities and MSS/ATC operators are required to file a notice containing site-specific data with the clearinghouse prior to initiating operations in the subject bands for newly constructed sites and for modified existing sites. However, AWS entities and MSS/ATC operators may satisfy this requirement by submitting a prior coordination notice (PCN) to the clearinghouse if a PCN was prepared in order to comply with coordination requirements previously adopted by the Commission. AWS entities and MSS/ATC operators that file either a notice or a PCN have a continuing duty to maintain the accuracy of the site-specific data on file with the clearinghouse until the sunset date specified in the Commission's Rules. AWS entities and MSS/ATC operators must pay the amount owed within 30 calendar days of receiving written notification of an outstanding reimbursement obligation. Parties of interest contesting the clearinghouse's determination of specific cost sharing obligations must provide evidentiary support to demonstrate that their calculation is reasonable and made in good faith. Specifically, these parties are expected to exercise due diligence to obtain the information necessary to prepare an independent estimate of the relocation costs in question and to file the independent estimate and supporting documentation with the clearinghouse.

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."[436]

In this *Ninth R&O*, the Commission decides to adopt relocation and cost sharing rules that are designed to support the introduction of AWS, with minimal disruption to incumbent BRS and FS operations, because doing so will promote the rapid deployment of efficient radio communications but won't interrupt incumbents' provision of service to subscribers. An alternative option would have been to offer no relocation or cost sharing processes, and instead require incumbent licensees to cease use of the band by a date certain and prohibit new licensees from entering the band until that date. We believe that an *Emerging Technologies*-based relocation and cost sharing procedure is preferable, as it draws on established and well known principles (such as time-based negotiation periods and the requirement of negotiating in good faith), benefits small BRS and FS licensees because the proposals would require new AWS licensees to pay for the costs to relocate their incumbent operations to comparable facilities, and – for small AWS licensees – offers a process by which new services can be brought to the market expeditiously. Moreover, we believe that the provision of additional spectrum that can be used to support AWS will directly benefit small business entities by providing new opportunities for the provision of innovative new fixed and mobile wireless services.

In the *Ninth R&O*, the Commission also avoids imposing additional burdens on licensees by adopting rules that permit, to the extent practicable, licensees to satisfy certain requirements by using documents that are prepared in compliance with other Commission Rules. For example, AWS entities and MSS/ATC operators are required to file a notice containing site-specific data with the clearinghouse prior to initiating operations in the subject bands for newly constructed sites and for modified existing sites. However, AWS entities and MSS/ATC operators may satisfy this requirement by submitting a prior coordination notice (PCN) to the clearinghouse if a PCN was prepared in order to comply with coordination requirements previously adopted by the Commission. In addition, the *Ninth R&O* adopts a rule that allows an AWS relocator of a BRS system to avoid incurring the costs of preparing and submitting a third party appraisal of relocation costs if it consents to binding resolution by the clearinghouse of any good faith cost disputes regarding the reimbursement claim.

F. Report to Congress

The Commission will send a copy of the *Ninth R&O*, including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act.[437] In addition, the Commission will send a copy of the *Ninth R&O*, including the FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Ninth R&O* and the FRFA (or summaries thereof) will also be published in the Federal Register.[438]

[436] 5 U.S.C. § 603(c).

[437] *See* 5 U.S.C. § 801(a)(1)(A).

[438] *See* 5 U.S.C. § 604(b).

APPENDIX C

LIST OF COMMENTERS AND REPLY COMMENTERS

Commenters to Fifth Notice of Proposed Rulemaking (ET Docket No. 00-258)

Comments

SpeedNet, LLC ("SpeedNet")
Verizon Wireless ("Verizon Wireless")
TMI Communications and Company, LP and TerreStar Networks, Inc. ("TMI/TerreStar")
BellSouth Corp., BellSouth Wireless Cable, Inc., and South Florida Television, Inc. (collectively, "BellSouth")
CTIA – The Wireless Association ("CTIA")
T-Mobile USA, Inc. ("T-Mobile")
PCIA, the Wireless Infrastructure Association ("PCIA")
C&W Enterprises, Inc. ("C&W")
Wireless Communications Association International, Inc. ("WCA")
Comsearch ("Comsearch")
Sprint Nextel Corp. ("Sprint Nextel")

Letter Comments (6)

Reply Comments

Radiofone ("Radiofone")
ArrayComm, LLC ("ArrayComm")
SpeedNet
WCA
T-Mobile
United States Cellular Corp. ("US Cellular")
Sprint Nextel
Sioux Valley Wireless ("Sioux Valley Wireless")
Polar Communications and Northern Wireless Communications, Inc. ("Polar/Northern Wireless")
PCIA
Evertek, Inc. ("Evertek")
Comsearch
CTIA
C&W
BellSouth
W.A.T.C.H. TV Co. ("W.A.T.C.H. TV")

STATEMENT OF
COMMISSIONER JONATHAN S. ADELSTEIN

Re: Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems; Ninth Report and Order; ET Docket No. 00-258

I am pleased to support this item because it puts in place important relocation procedures that will apply to a number of services in the 2.1 GHz band, in particular Broadband Radio Service (BRS) licensees in the 2150-2160/62 MHz band. Our decision is particularly significant because the adopted procedures are another important step in our efforts to prepare for the upcoming Advanced Wireless Services (AWS) auction later this summer, as a subgroup of AWS licensees ultimately will be responsible for relocation of these BRS operators.

While we generally adopt our Emerging Technology (ET) polices for relocation that have served the Commission so well over the past decade, we make a number of important adjustments to this overall structure to reflect the specific types of services offered by existing BRS operators. For example, we will allow BRS incumbents to fully use existing throughput by adding customers even if such changes would increase the size of service area subject to relocation. We also will require that BRS operators be relocated on a system-by-system basis, not link by link as we have done with other relocation efforts. These are important changes to our ET policies that were critical for my support of our decision today. I very much appreciate the effort of our Office of Engineering and Technology staff in crafting this carefully balanced item that considers the needs and requirements of both new AWS entrants and current BRS licensees with operational subscriber-based systems.

I do have one lingering concern, though, because we were unable to adopt self-relocation procedures that would have allowed BRS operators to initiate involuntary relocation after some type of waiting period. Self-relocation procedures have proven to be a useful tool in promoting timely and prompt spectrum relocation proceedings in the past. I am hopeful that my concerns are misplaced and that relocation will occur on an expedited basis notwithstanding our lack of a self-relocation policy.

STATEMENT OF
COMMISSIONER DEBORAH TAYLOR TATE

Re: *Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems (ET Docket No. 00-258); Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands (WT Docket No. 02-353).*

Advanced Wireless Services (AWS) are new and innovative fixed and mobile terrestrial wireless applications using bandwidth that is sufficient for the provision of a variety of voice and data applications, such as video telephony, wireless Internet access, multimedia streaming, and other high-speed information and entertainment services. These and other advanced services are essential to the future of our economy as we compete in a world increasingly dependent upon the immediate availability and exchange of vast amounts of information.

The future of wireless services will include the existing services of Broadband Radio Service (BRS) and Fixed Microwave Service (FS), but it will also – and must also – include AWS. Today, we take a significant step toward that future. Our action today represents a balancing of interests, as we help to facilitate the introduction of AWS in certain spectrum bands, yet take steps to ensure the continuation of BRS and FS service to the public. Those steps include cost sharing rules requiring relocation reimbursement from AWS and Mobile-Satellite Services (MSS) entering the bands, as well as relocation policies designed to minimize interference and provide relocating incumbents the right to comparable facilities.

I have always believed that the parties are in the best position to formulate resolutions, through negotiation, that take into account their individual business plans. I agree, however, that, as provided in this Order, regulatory intervention is appropriate where the parties fail to reach such resolution. Therefore, we also establish a mandatory negotiation period in which the parties must negotiate for relocation in good faith *before* a new entrant can trigger the involuntary relocation process.

For all these reasons, I support this Order.