

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

In the Matter of)
)
Amendment of Section 2.106 of the Commission's)
Rules to Allocate Spectrum at 2 GHz for use by) ET Docket No. 95-18
the Mobile-Satellite Service)
)
Amendment of Part 2 of the Commission's Rules)
to Allocate Spectrum Below 3 GHz for Mobile) ET Docket No. 00-258
and Fixed Services to Support the Introduction of)
New Advanced Wireless Services, including Third)
Generation Wireless Systems)
)
Flexibility for Delivery of Communications by)
Mobile Satellite Service Providers in the 2 GHz) IB Docket No. 01-185
Band, the L-Band, and the 1.6/2.4 GHz Bands)

THIRD REPORT AND ORDER AND THIRD MEMORANDUM OPINION AND ORDER

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By the Commission:

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INTRODUCTION

1. By this action, we are modifying the rules that new 2 GHz Mobile-Satellite Service (MSS) licensees are to follow when relocating incumbent Broadcast Auxiliary Service (BAS) licensees in the 1990-2025 MHz band and Fixed Service (FS) microwave licensees in the 2180-2200 MHz band.¹ We take these actions in light of our recent decision to reallocate 30 megahertz of 2 GHz MSS spectrum to new Fixed and Mobile services as part of our Advanced Wireless Services (AWS) proceeding,² and to allow MSS licensees to provide an Ancillary Terrestrial Component (ATC) in conjunction with their MSS networks.³ We also consider a number of outstanding petitions for reconsideration filed in response to our initial decision to reallocate these bands to MSS.⁴ Together, these decisions will resolve outstanding issues relating to the introduction of MSS at 2 GHz and the consequential relocation of BAS and FS licensees in these bands, which in turn will set the stage for the introduction of a variety of new and highly anticipated advanced services into these bands.

¹ BAS spectrum in the 2 GHz band is also authorized for use by the Cable Television Relay Service (CARS) and the Local Television Transmission Service (LTTS). See 47 C.F.R. §§ 74.602, 78.18(a)(6) and 101.801. As in previous actions in this proceeding, we will refer to these services collectively as “BAS,” and all decisions apply to CARS and LTTS in the band, as well as BAS.

² 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 Rulemaking and Second Memorandum Opinion and Order*, 18 FCC Rcd 2223 (2003) (*AWS Third Report and Order*), *petitions for reconsideration pending*.

³ See 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), *Errata* (rel. March 7, 2003) (*ATC Report and Order*), *appeal pending*, AT&T Wireless Services, Inc. and Celco Partnership d/b/a Verizon Wireless v. FCC, No. 03-1191 (D.C. Cir. filed July 8, 2003); *Order on Reconsideration*, IB Docket No. 01-185, FCC 03-162 (rel. July 3, 2003) (*ATC Sua Sponte Recon*).

⁴ 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, *Second Report and Order and Second Memorandum Opinion and Order*, 15 FCC Rcd 12315 (2000) (*MSS Second Report and Order*).

EXECUTIVE SUMMARY

2. As described in further detail, below, we are retaining in substantial part the BAS and FS relocation procedures that new MSS entrants in the 2 GHz band will follow and that were originally adopted in the Commission's *MSS Second Report and Order*. The modifications we make herein respond to comments filed in response to the *Further Notice of Proposed Rulemaking* in the AWS proceeding⁵ and the *Notice of Proposed Rulemaking* in the MSS-ATC proceeding.⁶ In both of those actions, the Commission sought comment on how the introduction of new services into the 2 GHz MSS band would affect the existing BAS and FS relocation procedures. We also address petitions for reconsideration filed in response to the *MSS Second Report and Order*. Specifically, we make the following decisions herein:

For relocation of BAS in the 1990-2025 MHz band by new MSS entrants, we:

- Require the relocation of BAS incumbents in all television markets to the final (Phase II) plan at 2025-2110 MHz. This will eliminate the necessity of relocating BAS licensees to an interim (Phase I) channel plan as part of the previously adopted two-phase approach to relocation.
- Retain the requirement that all BAS operations in markets 1-30 must be relocated prior to the initiation of new MSS in the band.
- Amend the rules to specify that the time period for calculating a one-year mandatory BAS negotiation period for markets 1-30 and the ten-year sunset period commence upon publication of this Report and Order in the *Federal Register*.
- Require the relocation of all fixed BAS stations on channels 1 and 2 nationwide prior to the initiation of new MSS in the band.
- Decline to require the reimbursement of relocation expenses for BAS facilities for which initial applications were filed at the Commission after adoption of the *MSS Second Report and Order*.
- Modify our final (Phase II) BAS channel plan to provide for seven channels of 12 megahertz each, and a 500 kilohertz data return link (DRL) band at both ends of the seven channels.
- Permit BAS licensees to operate indefinitely on their existing 17-megahertz wide channels in the 2025-2110 MHz band on a secondary basis, if they so choose.
- Clarify that an assignment or transfer of control does not disqualify a BAS incumbent from relocation eligibility.

For FS microwave relocation by MSS/ATC licensees in the 2180-2200 MHz band, we:

- Clarify that TIA TSB 10-F, or its successor, is an appropriate interference standard that may be used for determining interference from MSS ATC stations to incumbent FS operations in the 2 GHz band.
- Clarify that FS incumbents relocated through the negotiation process are eligible for reimbursement for relocation to leased facilities or alternative media, but decline to extend reimbursement eligibility to FS incumbents that voluntarily self-relocate.

⁵ 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 Rulemaking*, 16 FCC Rcd 16043 (2001) (*AWS Further Notice*).

⁶ 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 Band, IB Docket No. 01-185, *Notice of Proposed Rulemaking*, 16 FCC Rcd 15532 (2001) (*ATC Notice*).

- Decline to establish separate “rolling” negotiation periods for each FS incumbent as they are approached by MSS licensees for relocation negotiation.
- Amend the rules to specify that the time period for calculating the mandatory FS negotiation periods and the ten-year sunset period commence upon publication of this Report and Order in the *Federal Register*.
- Clarify that an assignment or transfer of control does not disqualify a FS incumbent from relocation eligibility.
- Decline to require MSS licensees to relocate FS incumbents from which the MSS operation would only receive, but not cause, interference prior to the ten-year sunset date.

BACKGROUND

3. In 1997, the Commission reallocated the 1990-2025 MHz band to the MSS (Earth-to-space) and the 2165-2200 MHz band to the MSS (space-to-Earth),⁷ displacing existing BAS and FS licensees, respectively. The relocation procedures for incumbent BAS facilities at 1990-2025 MHz and incumbent FS facilities at 2165-2200 MHz adopted in the *MSS Second Report and Order* represented a comprehensive plan for clearing this 70 megahertz of spectrum for use by new MSS licensees. The plan was modeled on the policies set forth in our earlier Emerging Technologies proceeding,⁸ and requires MSS entrants to provide comparable facilities to BAS and FS incumbents that are relocated prior to the sunset dates specified in the *MSS Second Report and Order*.⁹ Both the BAS and FS relocation procedures call for mandatory negotiation periods; after which, if a relocation agreement has not been reached, MSS licensees may involuntarily relocate the incumbent operator(s). The obligation of MSS licensees to provide relocation compensation was scheduled to sunset ten years after the initial negotiations with FS incumbents begin, and on September 6, 2010, for BAS incumbents. Petitions for reconsideration, oppositions and replies were filed in response to the *MSS Second Report and Order*.¹⁰ Last year, the Commission issued an *Order* suspending the expiration date of the initial two-year mandatory negotiation period between BAS incumbents and new MSS licensees.¹¹ This *Suspension Order* was based on the fact that AWS and MSS-ATC matters, which had the potential to affect use of the band, were still pending at

⁷ 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, *First Report and Order and Further Notice of Proposed Rule Making*, 12 FCC Rcd 7388 (1997) (*MSS First Report and Order*).

⁸ 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”).

⁹ *MSS Second Report and Order*, 15 FCC Rcd 12315, paras. 50 and 80.

¹⁰ These pleadings are listed in Appendix A.

¹¹ 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, *Order*, 17 FCC Rcd 15141 (2002) (*Suspension Order*).

that time. Our Office of Engineering and Technology granted two additional suspensions of this date, such that the initial two-year mandatory negotiation period is now due to expire on November 13, 2003.¹²

4. The Commission recently has made several decisions that will affect the planned relocation of these BAS and FS incumbents by increasing the number and nature of new entrants in the 1990-2025 MHz and 2165-2200 MHz bands. In the AWS proceeding, ET Docket No. 00-258, the Commission examined the suitability of a variety of frequency bands for the provision of advanced wireless services.¹³ The Commission had previously identified the 2 GHz MSS bands as potential candidates for the provision of AWS, including those technologies to be used as part of so-called third-generation, or “3G,” applications, in the 2001 *AWS Further Notice*.¹⁴ In addition to proposing to reallocate some MSS spectrum to new Fixed and Mobile Services, including AWS, the *AWS Further Notice* sought comment on what changes would be necessary to the rules governing the relocation of BAS and FS licensees in the 1990-2025 MHz and 2165-2200 MHz bands.¹⁵ In a *Third Report and Order* released this February, the Commission reallocated from the 2 GHz MSS spectrum 30 megahertz in the 1990-2000 MHz, 2020-2025 MHz, and 2165-2180 MHz bands for Fixed and Mobile services on a primary basis.¹⁶ The decision retained the remaining 40 megahertz of spectrum in the 2000-2020 MHz and 2180-2200 MHz bands for MSS use.¹⁷ The *AWS Third Report and Order* did not address the relocation issues raised in the *AWS Further Notice*. In a *Third Notice of Proposed Rulemaking* portion of the same document, we sought comment on the best use of these reallocated bands. Such uses could include, for example, additional AWS spectrum – either under new service rules or as an expansion of adjacent-band Broadband PCS frequencies; replacement spectrum for Multipoint Distribution Service (MDS) operations in the 2.1 GHz band; or replacement Specialized Mobile Radio (SMR) spectrum in conjunction with a plan to resolve public safety and Commercial Mobile Radio Service (CMRS) interference issues in the 800 MHz band.¹⁸ With regard to this last possibility – use of the MSS bands to help resolve 800 MHz public safety interference issues – we note that an extensive record has developed under the proceeding in WT Docket No. 02-55. These matters are still under consideration.

5. With respect to MSS licensing, we note that the Commission requires 2 GHz MSS networks to meet an implementation milestone schedule as a condition of authorization, and non-compliance with implementation milestones will result in cancellation of the authorization. Acting in accordance with this process, the International Bureau has nullified authorizations held by Constellation Communications Holdings, Inc., Mobile Communications Holdings, Inc., Globalstar L.P., and TMI

¹² 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, *Order*, 18 FCC Rcd 18353 (OET, 2003) (*Second Suspension Order*); *Order*, DA 03-3543 (OET, rel. Nov. 4, 2003) (*Third Suspension Order*).

¹³ 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, 23194-95, paras. 2-3 (2002) (*AWS Second Report and Order*) (describing the history of the AWS proceeding and listing the bands that have been considered).

¹⁴ *AWS Further Notice*, 16 FCC Rcd at 16055-56, paras. 24-29.

¹⁵ *Id.*, 16 FCC Rcd at 16057-58, paras. 32-34.

¹⁶ *AWS Third Report and Order*, 18 FCC Rcd at 2238, para. 28.

¹⁷ *Id.*

¹⁸ *Id.*, 18 FCC Rcd at 2242-2257, paras. 38-73.

Communications and Company, Limited Partnership.¹⁹ Currently, The Boeing Company, Celsat America, Inc. (Celsat), ICO Satellite Services, G.P. (ICO), and Iridium 2GHz LLC are authorized to provide 2 GHz MSS.²⁰

6. We also have permitted MSS licensees to provide an Ancillary Terrestrial Component to their satellite systems in IB Docket No. 01-185. In the *ATC Notice of Proposed Rulemaking*, the Commission recognized that the introduction of terrestrial operations in the MSS bands – such as the services proposed as part of ATC – might affect the existing BAS and FS relocation and reimbursement rules, and sought comment on whether the existing relocation procedures would be sufficient to accommodate the introduction of MSS terrestrial operations.²¹ In the subsequent *ATC Report and Order*, released February 10, 2003, the Commission concluded that it would be more efficient, feasible and practical to permit MSS licensees to include a terrestrial component in their satellite systems than to award terrestrial use rights in the MSS band to third parties.²² ATC operations will not be permitted until after a MSS licensee files an application with the Commission that demonstrates compliance with measures designed to ensure the integrity of the underlying satellite operations.²³ These measures require MSS licensees to develop and deploy their satellite service before they can offer ATC services.²⁴ The *ATC Report and Order* did not address the relocation issues raised in the *ATC Notice*.

¹⁹ Mobile Communications Holdings, Inc. and ICO Global Communications (Holdings) Limited, et al., *Memorandum Opinion and Order*, 18 FCC Rcd 1094 (Int'l Bur. 2003), *joint app. for review pending*; Globalstar, L.P., *Memorandum Opinion and Order*, 18 FCC Rcd 1249 (Int'l Bur. 2003), *request for stay and emergency app. for review pending*; TMI Communications and Company, Limited Partnership, *Memorandum Opinion and Order*, 18 FCC Rcd 1725 (Int'l Bur. 2003), *request for stay and app. for review pending*.

²⁰ The Boeing Company, *Order and Authorization*, 16 FCC Rcd 13691 (Int'l Bur. 2001), *app. for review denied*, 18 FCC Rcd 1405 (2003), *appeal pending*, AT&T Wireless Services, Inc. v. FCC, No. 03-1042 (D.C. Cir. filed Feb. 26, 2003), *modified*, *Order and Authorization*, DA 03-2073 (Int'l Bur., rel. June 24, 2003); Celsat America, Inc., *Order and Authorization*, 16 FCC Rcd 13712 (Int'l Bur. 2001) *app. for review denied*, 18 FCC Rcd 1405 (2003), *appeal pending*, AT&T Wireless Services, Inc. v. FCC, No. 03-1042 (D.C. Cir. filed Feb. 26, 2003), *modified*, *Order and Authorization*, 16 FCC Rcd 14278 (Int'l Bur. 2001), *modified*, *Order*, DA 03-2076 (Int'l Bur., rel. June 24, 2003); ICO Services Limited, *Order*, 16 FCC Rcd 13762 (Int'l Bur./OET 2001), *app. for review denied*, 18 FCC Rcd 1405 (2003), *appeal pending*, AT&T Wireless Services, Inc. v. FCC, No. 03-1042 (D.C. Cir. filed Feb. 26, 2003), *modified*, ICO Satellite Services G.P., *Order*, DA 03-2077 (Int'l Bur., rel. June 24, 2003); Iridium LLC, *Order and Authorization*, 16 FCC Rcd 13778 (Int'l Bur. 2001), *app. for review denied*, 18 FCC Rcd 1405 (2003), *appeal pending*, AT&T Wireless Services, Inc. v. FCC, No. 03-1042 (D.C. Cir. filed Feb. 26, 2003), *modified*, Iridium 2GHz LLC, *Order*, DA 03-2075 (Int'l Bur., rel. June 24, 2003). In this document, the term “application” refers to submissions by parties seeking to operate U.S.-licensed systems; the term “MSS licensee” includes MSS systems licensed by the Commission to serve the United States, as well as non-U.S.-licensed satellite systems for which the Commission reserved spectrum to serve the United States. See Amendment of the Commission’s Regulatory Policies to Allow Non-U.S. Licensed Space Stations to Provide Domestic and International Satellite Service in the United States, IB Docket No. 96-111, *Report and Order*, 12 FCC Rcd 24094, 24173-74 para. 185 (1997) (detailed discussion of the procedures under which foreign-licensed satellite systems may provide service in the United States).

²¹ *ATC Notice*, 16 FCC Rcd at 15560-61, paras. 72-74.

²² *ATC Report and Order*, 18 FCC Rcd at 1990-1995, paras. 47-55.

²³ See generally *ATC Sua Sponte Recon*, FCC 03-162.

²⁴ See generally *ATC Report and Order*, 18 FCC Rcd at 2001-2016, paras. 72-102.

DISCUSSION

7. By this Third Report and Order and Third Memorandum Opinion and Order, we address BAS and FS relocation issues as they pertain to 2 GHz MSS licensees as part of an overall effort to promote the rapid introduction of MSS into the 2 GHz bands. As such, we combine a Report and Order addressing the relevant comments that discuss BAS and Fixed Service relocation issues in two proceedings, ET Docket 00-258 and IB Docket No. 01-185, with a Memorandum Opinion and Order addressing the seven petitions that seek reconsideration or clarification of relocation decisions made in the *MSS Second Report and Order*.²⁵ The issues we consider generally relate to relocation timing, reimbursement eligibility, negotiation commencement, and technical/interference matters. Our decisions are designed to account for the actions the Commission has taken in the subsequent proceedings, described above, regarding the reallocation of a portion of the MSS band and the introduction of ATC services by MSS licensees.²⁶

8. As an initial matter, we are not altering the fundamental workings of the relocation process that was adopted in the *MSS Second Report and Order*. For example, throughout the AWS proceeding, commenters representing incumbent licensees' interests have urged us to maintain the general relocation principles of the Emerging Technologies proceeding even if we expand the nature and scope of services in the band.²⁷ We agree.

9. In order to provide for MSS entry into the band in accordance with construction milestones, MSS licensees generally will have to relocate BAS and FS incumbents. We note that, due to the reallocation of the 1990-2000 MHz and 2020-2025 MHz bands in the AWS proceeding, non-MSS licensees that may begin service later will benefit from the band clearing paid for by MSS licensees. For this reason, we will provide an equitable mechanism by which MSS licensees can recover some of the relocation costs incurred from other licensees who will benefit from the band clearing in the 1990-2000 MHz and 2020-2025 MHz segments of the 1990-2025 MHz band. Thus, licensees benefiting from MSS licensees' efforts to clear incumbent BAS from the 1990-2025 MHz band will be expected to share the costs of this relocation.

10. However, because the nature and scope of new Fixed and Mobile service licensees that will operate in the 1990-2000 MHz and 2020-2025 MHz bands has not yet been determined, we do not set forth herein a comprehensive set of procedures that new Fixed and Mobile service providers (including AWS entrants) in these bands must follow to relocate incumbent BAS licensees and/or to reimburse MSS licensees that will have incurred relocation costs. We will instead consider such matters in a separate, future proceeding. This is because the decisions we make with respect to these bands may affect the manner by which we apply the general cost-sharing principles embodied in the Emerging Technologies

²⁵ An eighth petition, filed by the Cellular Telecommunications and Internet Association (CTIA) on October 15, 2001, in ET Docket No. 00-258, ET Docket No. 95-18, and IB Docket No. 99-81, was addressed in the Second Memorandum Opinion and Order portion of the *AWS Third Report and Order*, 18 FCC Rcd at 2257-2258, paras. 74-75.

²⁶ However, the decisions we make herein are limited to those actions that will allow MSS licensees to continue the relocation of BAS and FS incumbents in order to begin service in the 2 GHz band. We will address specific pleadings that pertain to the *ATC Order* and the spectrum reallocation decisions in the *AWS Third Report and Order* separately.

²⁷ See, e.g., Cox and Cosmos Reply Comments to the *AWS Further Notice* at 6 (stating that “[h]owever the Commission may propose to revise the BAS relocation plan, Cox and Cosmos agree with MSTV and NAB that, consistent with the Commission’s decisions in this proceeding, all new entrants must ensure full compensation of BAS incumbents’ relocation expenses.”)

procedures. For example, it is not clear how we would apply our traditional cost-sharing principles were we to use portion of the bands to provide relocation spectrum for Nextel's operations in the 800 MHz band or for MDS licensees in the 2150-2160/62 MHz band,²⁸ to relocate federal government operations,²⁹ or to provide interference separation between new AWS licensees and existing users in adjacent spectrum bands.³⁰ We expect, however, that licensees that ultimately benefit from spectrum cleared by MSS shall bear the cost of reimbursing MSS licensees for the accrual of that benefit.

11. Some petitioners also note the complexity that introducing different services with potentially different geographic licensing schemes will have on cost-sharing in the band. For example, PCIA has suggested, *inter alia*, that we authorize a third-party clearinghouse to administer relocation matters.³¹ We likewise defer consideration of this issue because we have not yet adopted service rules for the Fixed and Mobile allocation in the band and, therefore, do not know the characteristics of new licensees that will share the 2 GHz band with the existing MSS licensees. We will be able to make more meaningful decisions with respect to these and other cost-sharing procedures at a future time.

12. Finally, since the actions taken herein include the relocation of existing services and the addition of new services within the subject frequency bands, there may be some impact on international coordination arrangements currently in effect. Therefore, operation in the border areas may be constrained pending the completion of consultations with foreign administrations, as necessary, and until existing agreements are revised and new agreements are developed, as appropriate.

A. BAS

1. Background

13. *BAS Use and Band Plan.* The 1990-2110 MHz band (2 GHz BAS band) is currently used extensively by the BAS for mobile TV pickup (TVPU) operations, including electronic newsgathering (ENG) operations to cover events of interest.³² Such stations can operate in a variety of configurations within their operating area. TVPU stations may transmit from an ENG truck, helicopter, blimp, etc., directly to a fixed receiver at the station or through a relay link at a remote receiver location.³³ TVPU signals may also originate or relay through aeronautical TVPU platforms, such as helicopters, to a fixed receive point, a mobile satellite uplink truck, or other facilities, to reach the ultimate receive point – typically a studio. The band may also be used for mobile operations in the Cable Television Relay Service.³⁴ It is also used by fixed BAS operations such as studio-transmitter link (STL) stations, TV relay

²⁸ See *AWS Third Report and Order*, 18 FCC Rcd at 2248, para. 29. See also Nextel comments in WT Docket No. 00-258 (filed April 14, 2003).

²⁹ See, e.g., Cingular comments in WT Docket No. 00-258 (filed April 14, 2003) at 2-3.

³⁰ See, e.g., Ericsson comments in WT Docket No. 00-258 (filed April 14, 2003) at 2-4.

³¹ PCIA, the Wireless Infrastructure Association, Petition for Partial Reconsideration of the *AWS Second Report and Order* at 4. See also PCIA, the Wireless Infrastructure Association, Comments to the *AWS Third Report and Order*.

³² A TVPU station is a land mobile station used for the transmission of TV program material and related communications from scenes of events back to the TV station or studio. See 47 C.F.R. § 74.601(a) (listing classes of TV broadcast auxiliary stations).

³³ Fixed receiver sites for TVPU signals are typically located on tall buildings, towers, or mountain tops and employ remotely steerable directional antennas, thus affording maximum coverage of TVPU transmissions within the operations area. See SBE Comments in ET Docket No. 98-206, filed Jan.12, 2000, at 3.

³⁴ 47 C.F.R. § 78.18(a)(6).

stations, and TV translator relay stations, but the majority of those operations are in higher frequency bands allocated to the BAS.³⁵ Further, communications common carriers in the LTTS may be assigned any of the 2 GHz BAS channels to provide service to TV broadcast stations, TV broadcast network-entities, cable system operators, and cable network entities.³⁶

14. Traditionally, the 2 GHz BAS channel plan divided the bands 1990-2110 MHz and 2450-2483.5 MHz into nine channels, each consisting of between 16.5 and 18 megahertz. These channels are available for assignment to various fixed and mobile BAS applications.³⁷ Table 1, below, depicts the existing channel plan for 1990-2110 MHz in column 1. While a TVPU licensee may be authorized to operate on any or all frequencies,³⁸ fixed link BAS/LTTS stations are authorized to operate on one channel only.³⁹ When necessary, short-term itinerant operation under the provisions of 47 C.F.R. § 74.24 may be used to deploy outside a licensee's authorized operational area for up to 720 hours annually.⁴⁰ This capability is generally used to cover special events and breaking news such as natural disasters and other emergency situations that occur outside a licensee's area of normal operations.

³⁵ A TV STL station (studio-transmitter link) is a fixed station used for the transmission of TV program material and related communications from the studio to the transmitter. A TV relay station is a fixed station used for transmission of TV program material and related communications for use by TV broadcast stations or other purposes as authorized in Section 74.631. A TV translator relay station is a fixed station used for relaying programs and signals of TV stations to TV translators or other communications facilities that the Commission may authorize. *See* 47 C.F.R. §74.601(b). *See generally* 47 C.F.R. §74.600 ("Eligibility for license").

³⁶ LTTS operations are limited to the permissible uses described in Sections 74.631 and 78.11. *See* 47 C.F.R. §101.803(b).

³⁷ *See* 47 C.F.R. § 74.602(a). In addition, the Commission grandfathered incumbent facilities on a co-primary basis when it reallocated BAS channel 10 (2483.5-2500 MHz) to the MSS (space-to-Earth), a.k.a. "Big LEO" systems.

³⁸ Authorization of multiple frequencies enables licensees to avert interference to other operations by allowing licensees to select the channel that is best suited for the site characteristics and antenna pointing for a particular TVPU remote location.

³⁹ *See* 47 C.F.R. § 74.602(c).

⁴⁰ *See* 47 C.F.R. § 74.24.

Table 1: 2 GHz BAS Channel Plans		
Existing Channel Plan	Previous Phase II Channel Plan	Revised Phase II Channel Plan
Channel 1 1990-2008 MHz (18 MHz)		The 1990-2025 MHz band will no longer be available for BAS/LTTS/CARS use after a DMA has been cleared.
Channel 2 2008-2025 MHz (17 MHz)		
Channel 3 2025-2042 MHz (17 MHz)	Channel A01 2025-2037.4 MHz (12.4 MHz)	Lower DRL Band 2025-2025.5 MHz (500 kHz)
Channel 4 2042-2059 MHz (17 MHz)	Channel A02 2037.4-2049.5 MHz (12.1 MHz)	Channel A1r 2025.5-2037.5 MHz (12 MHz) (Fully within existing Channel 3)
	Channel A03 2049.5-2061.6 MHz (12.1 MHz)	Channel A2r 2037.5-2049.5 MHz (12 MHz)
Channel 5 2059-2076 MHz (17 MHz)	Channel A04 2061.6-2073.7 MHz (12.1 MHz)	Channel A3r 2049.5-2061.5 MHz (12 MHz)
Channel 6 2076-2093 MHz (17 MHz)	Channel A05 2073.7-2085.8 MHz (12.1 MHz)	Channel A4r 2061.5-2073.5 MHz (12 MHz) (Fully within existing Channel 5)
	Channel A06 2085.8-2097.9 MHz (12.1 MHz)	Channel A5r 2073.5-2085.5 MHz (12 MHz)
Channel 7 2093-2110 MHz (17 MHz)	Channel A07 2097.9-2110 MHz (12.1 MHz)	Channel A6r 2085.5-2097.5 MHz (12 MHz)
		Channel A7r 2097.5-2109.5 MHz (12 MHz) (Fully within existing Channel 7)
		Upper DRL Band 2109.5-2110 MHz (500 kHz)

15. *Relocation Plan.* Early in the process of evaluating MSS use of the 1990-2025 MHz band, the Commission studied the feasibility of sharing between MSS and BAS at 1990-2025 MHz and concluded that such sharing is not feasible because of the potential for interference between MSS uplinks and the variety of fixed and mobile BAS facilities that currently operate in the band.⁴¹ In the *MSS Second Report and Order*, the Commission concluded that BAS operations could continue to be effective even if the BAS allocation is reduced from the seven-channel 120 megahertz allocation in the 1990-2110 MHz band to a seven-channel 85 megahertz allocation in the 2025-2110 MHz band.⁴² Under the relocation plan adopted by the Commission, the individual BAS channels will be reduced to approximately 12 megahertz each. This decision did not affect use of 33.5 megahertz in the 2450-2483.5 MHz band allocated for BAS channels 8-9, as well as grandfathered use of BAS channel 10.⁴³

16. The adopted relocation process for 2 GHz BAS consists of two phases in which the existing BAS channels are successively narrowed in width. The plan calls for BAS licensees to move to a “Phase I” channelization plan that consists of seven channels within 102 megahertz of spectrum at 2008-2110 MHz. This plan consists of six 14.5 megahertz-wide channels and one 15 megahertz-wide channel. MSS licensees would bear the cost of retuning or replacing BAS equipment to operate on the narrower channels, although the migration to 14.5 or 15 megahertz wide channels likely would be accomplished through retuning equipment, at a less expensive cost compared to replacing equipment. Later, BAS licensees would be limited to the 2025-2110 MHz band and operate under seven “Phase II” BAS channels within the final 85 megahertz-wide band. Under the current plan, six of the Phase II channels will be 12.1 megahertz wide and one will be 12.4 megahertz wide.⁴⁴ Again, MSS licensees would be required to pay for the cost of relocating BAS licensees to operate in the reduced bandwidth.⁴⁵ As during Phase I, this could be accomplished by retuning or replacing equipment, although the migration to 12 megahertz-wide channels would likely require more pre-existing BAS equipment to be replaced (at greater cost than being retuned) during Phase II than during Phase I. The relocation plan also permits a MSS licensee that demonstrates to the Commission that it is capable of sharing spectrum with BAS and that would operate solely in a portion of the band that had not been cleared to be exempt from BAS relocation.⁴⁶

17. In the *MSS Second Report and Order*, the Commission also recognized four broad categories of BAS markets based on the nature and intensity of BAS use, and incorporated these categories into the relocation plan.⁴⁷ These categories are “LA,” representing the Los Angeles television market; “Metro,” consisting of the remaining top 30 television markets; “Light,” which is made up of markets 31-100, and “Rural,” representing all television markets 101 and above.⁴⁸ The Commission

⁴¹ *MSS First Report and Order*, 12 FCC Rcd at 7401, para. 30.

⁴² *MSS Second Report and Order*, 15 FCC Rcd at 12319, para. 13.

⁴³ See 47 C.F.R. § 74.602.

⁴⁴ See 47 C.F.R. § 74.602(4)(i).

⁴⁵ The *MSS Second Report and Order* also established cost-sharing provisions that are designed to ensure that all MSS licensees that benefit from relocation of BAS incumbents share in the relocation expenses. See *MSS Second Report and Order*, 15 FCC Rcd at 12336-38, paras. 64-69.

⁴⁶ See *id.*, 15 FCC Rcd at 12339, para. 74; The Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band, IB Docket No. 99-81, *Report and Order*, 15 FCC Rcd 16127, 16142, para. 25 (2000).

⁴⁷ *MSS Second Report and Order*, 15 FCC Rcd at 12322-23, para. 19. These market differentiations were originally suggested by SBE in comments to the 2 GHz relocation rulemaking. *Id.*

⁴⁸ By “above” we mean those markets whose corresponding Nielsen DMA identification number is greater. *E.g.*, a reference to “markets 31 and above” would include market 134. As the number of a DMA market increases, the
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required MSS licensees to relocate the 30 largest markets (*i.e.*, the “LA” and “Metro” categories) to the Phase I BAS channels before the MSS licensees would be allowed to begin operations. Once MSS operations begin, all BAS use of the 1990-2008 MHz band (channel 1) would be prohibited. As a practical matter, this means that in those markets whose facilities have not been relocated (*i.e.* the “Light” and “Rural” markets), BAS licensees would be able to continue to use “old” BAS channels 2-7 (2008-2110 MHz), but could no longer use BAS channel 1 (1990-2008 MHz). The new MSS licensee(s) would be required to complete relocation of BAS in the next 70 largest (*i.e.* “Light”) television markets to the Phase I channel plan within three years of the date upon which MSS operations begin.

18. Under the existing plan, Phase II will be triggered when the Phase I spectrum is no longer sufficient to meet MSS requirements. Again, new MSS licensees are required to relocate the 30 largest markets to the “final” Phase II BAS channels (2025-2110 MHz) before the MSS licensees would be allowed to begin operations in the bands above 2008 MHz. Once MSS operations begin above 2008 MHz, all BAS incumbents will be prohibited from using the 2008-2023 MHz block.⁴⁹ From the date that MSS operations begin above 2008 MHz, MSS licensees will have three years to complete the relocation of BAS licensees in markets 31-100 (the “Light” markets), and five years to complete relocation of the remaining (“Rural” market) licensees. Because each of the seven Phase II channels will be only 12.1 to 12.4 megahertz wide, the Phase II transition is expected to be accompanied by a transition from widespread analog BAS operations to the use of digital equipment to ensure the necessary quality of service in the reduced bandwidth.

19. The Commission also established BAS negotiation periods and a relocation sunset date consistent with the general principles of the Emerging Technologies relocation procedures. For Phase I relocation, a two-year mandatory negotiation period began September 6, 2000, thirty days after publication of the *MSS Second Report and Order* in the *Federal Register*. After the mandatory negotiation period (during which time BAS and MSS licensees are required to negotiate in good faith), MSS licensees were to be given the option of involuntary relocation. Under this process, a MSS licensee may, at its own expense, make necessary modifications to or replacement of the incumbent licensee’s BAS equipment in order to effect the relocation of the BAS facilities. Under the relocation process set forth in the *MSS Second Report and Order*, an additional two-year mandatory negotiation period for BAS markets 31-100 would begin after the first MSS entrant began operation in Phase I spectrum, to be followed by the option of involuntary relocation.⁵⁰ Similar mandatory negotiation periods would take place during Phase II of the relocation, running from the date on which the first MSS licensee informs BAS incumbents of its desire to begin negotiations.⁵¹ The Commission also established a “sunset date” –

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number of TV households in that particular market decreases. Thus, DMA 7 represents a geographic area that contains a substantially larger TV audience population than DMA 174.

⁴⁹ 47 C.F.R. § 74.690(e)(4). Although the reallocated BAS spectrum consists of 1990-2025 MHz, the Commission decided that during Phase II, a MSS licensee needing the 2023-2025 MHz portion of the MSS band would not be allowed to begin service until all BAS licensees have been relocated to the final Phase II channel plan. It did decide to permit a MSS licensee to accelerate the relocation process at its own expense. The Commission limited MSS use of this 2 megahertz of spectrum during the transition because BAS channel 1 was slated to operate at 2023-2037.5 MHz under the Phase I channelization.

⁵⁰ *MSS Second Report and Order*, 15 FCC Rcd at 12339, para. 74.

⁵¹ *Id.* These periods relate to the manner by which MSS and BAS licensees are to conduct relocation negotiations. Although a MSS licensee may involuntarily relocate a BAS incumbent at any time after the expiration of the mandatory negotiation period, MSS licensees have an overarching obligation to relocate BAS incumbents within
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i.e., a date after which MSS licensees would no longer be required to relocate BAS incumbents – as ten years following the start of the first negotiation period for relocation, which the Commission set as 30 days after publication of the *MSS Second Report and Order* in the *Federal Register* – *i.e.* September 6, 2000. Thus, the obligation to relocate incumbent BAS operations in the 1990-2025 MHz band is due to end on September 6, 2010.⁵²

20. The Commission determined that the two-phase relocation plan described above, in conjunction with a market-differentiated cutover, served as an appropriate compromise between the interests of providing the least disruptive transition for incumbent BAS users and establishing a relocation mechanism that allowed new MSS entrants a realistic opportunity to take advantage of the Emerging Technologies principle that new service providers should be given an opportunity to negotiate financial arrangements for the reaccommodation of incumbent licensees in order to secure early entry into the frequency band. BAS is a critical component of the broadcasting system by which information and entertainment is provided to the American public. BAS is also highly integrated, such that the effective use of these frequencies has traditionally required the cooperation and coordination of all users in a particular market.⁵³ Given the structure and importance of BAS, the Commission concluded that it would be impossible to adopt a license-by-license relocation plan as has been done for fixed microwave services in previous Emerging Technologies relocations (as well as the 2165-2200 MHz relocation procedure we discuss elsewhere in this decision) without seriously disrupting BAS functions. In addition, the ubiquitous nature of MSS operations precludes the gradual build-out of facilities that previous Emerging Technologies entities have used to spread out their relocation costs.⁵⁴

21. Because MSS is expected to cause interference to BAS channels on a nationwide basis once service starts, the Commission concluded that it was necessary to minimize costs to the extent possible for MSS licensees and to defer those costs where possible. The two-phase plan was designed to spread relocation costs over a greater time period while at the same time allowing for an orderly transition of BAS with minimum disruption.⁵⁵ These factors, as well as concerns regarding limits to equipment and labor availability, also led the Commission to conclude that a nationwide cutover (versus the market-differentiated cutover that was adopted) would not meet these goals.⁵⁶ Finally, because some MSS licensees were expected to begin service later than others, the *MSS Second Report and Order* noted that a one-phase cutover could leave substantial amounts of spectrum unused for a significant period of time.⁵⁷ Numerous comments filed in the MSS-ATC and AWS proceedings specifically discuss these BAS relocation procedures, as do four petitions for reconsideration and clarification filed in response to the

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three and five years of beginning service, depending on the BAS market and relocation phase. *See supra* paras. 17-18.

⁵² Due to a typographical error, 47 C.F.R. §74.690(e)(1) states that the initial negotiation period begins on September 6, 2010, not September 6, 2000. 47 C.F.R. §74.690(e)(6) sets the sunset date as ten years after the date listed in subsection (e)(1). In the *Suspension Order*, we noted that the correct starting date, consistent with the discussion in the *MSS Second Report and Order*, is September 6, 2000. *Suspension Order*, 17 FCC Rcd at 15142, para. 2, n.8. Accordingly, the correct sunset date is September 6, 2010.

⁵³ *See* 47 C.F.R. § 74.604 (discussing the necessity of BAS licensees to work cooperatively to avoid interference including, where applicable, the use of local coordination committees).

⁵⁴ *MSS Second Report and Order*, 15 FCC Rcd at 12325, para. 27.

⁵⁵ *Id.*

⁵⁶ *Id.*, 15 FCC Rcd at 12324-25, para. 24.

⁵⁷ *Id.*, 15 FCC Rcd at 12327, para. 34.

MSS Second Report and Order. We discuss these filings in greater depth in conjunction with our decision, below.

22. *Subsequent Developments*. After the establishment of the BAS/MSS relocation procedures, the Commission initiated two major rulemaking proceedings in which it proposed, or sought comment on, alternative uses and new allocations in portions of the 2 GHz band now allocated for MSS. In these proceedings, discussed above, the Commission acknowledged that any such reallocation could affect the relocation procedures adopted in the *MSS Second Report and Order* and sought comment on specific changes that may be necessary to these procedures. Comments filed in response to these proceedings address whether the entry of new licensees and the provision of new terrestrial services by MSS licensees warranted a revision to the existing two-phase market-differentiated relocation process. As discussed *supra*, we have suspended the expiration date of the two-year mandatory negotiation period in order to provide time to address these issues prior to the scheduled conclusion of the two-year mandatory BAS-MSS negotiation period for Phase I relocations in the top 30 BAS markets.⁵⁸ Each order included the option to lengthen or shorten the suspension of the expiration date as circumstances warrant.

2. Report and Order

23. *Background*. The current two-phase transition plan represents the Commission's effort to balance the unique interests of the MSS and BAS licensees in the band. The original Emerging Technologies relocation procedures were designed to allow for the gradual relocation of incumbents during a buildout period targeted to specific geographic areas. By contrast, the market coordinated nature of BAS makes a link-by-link relocation policy impractically disruptive, and the broad coverage area of an MSS signal will require relocation of incumbents over a broad geographical area.⁵⁹ A market-differentiated relocation is designed to allow for the continuity of a seven-channel BAS band plan in the markets where these channels are most needed, while allowing several years for relocation in the lighter-use markets. The Commission found that by adopting this approach, it could spread out the costs of BAS relocation, lessen the burden on equipment manufacturers and the personnel who would be required to replace or retune BAS equipment, and allow for advances in equipment development and design.⁶⁰

24. Numerous commenters to both the *AWS Further Notice* and the *ATC Notice* address the phased, market-differentiated transition plan. In response to the *AWS Further Notice*, NAB/MSTV asks that we adopt a single-phase relocation for all BAS incumbents, in light of our decisions that have expanded the scope of MSS use of and new entrants eligible to use the 1990-2025 MHz band.⁶¹ NAB/MSTV submits that the introduction of AWS into the band presents an opportunity to "rationalize and simplify" the relocation procedure.⁶² Specifically, it argues that the concern that the only entrants in

⁵⁸ *Suspension Order*, 17 FCC Rcd 15141; *Second Suspension Order*, 18 FCC Rcd 18353; *Third Suspension Order*, DA 03-3543 (OET, rel. Nov. 4, 2003).

⁵⁹ See *MSS Second Report and Order*, 15 FCC Rcd at 12327, para. 34.

⁶⁰ *Id.*, 15 FCC Rcd at 12327, para. 35.

⁶¹ NAB/MSTV Comments to the *AWS Further Notice* at 5. We note that prior to filing its comments to the *AWS Further Notice*, NAB/MSTV, in its petition for reconsideration, initially claimed that the two-phase relocation, as adopted, would cause substantial harm to small-market BAS stations and asked that we require the relocation of all BAS stations (not just those in the top 100 markets) to be relocated to the Phase I channel plan within 5 years of the start of Phase I. NAB/MSTV Petition for Partial Reconsideration of the *MSS Second Report and Order* at 5.

⁶² NAB/MSTV Comments to the *AWS Further Notice* at 5.

the band will be a handful of MSS licensees whose operating characteristics require massive up-front costs before they begin generating revenue is now replaced by the prospect of many new AWS entrants in the band, the majority of whom are likely to take advantage of the quick facility deployment associated with terrestrial services, as well as revenue streams from existing operations.⁶³ NAB/MSTV further states that whereas the two-phase plan was designed to accommodate the gradual entry of MSS beginning at the lower end of the band, the reallocation makes it more likely that multiple entrants will seek to quickly use different parts of the band. It therefore argues that the existing plan is “simply incompatible” with the rapid deployment of AWS in the upper portion of the band (*i.e.*, 2020-2025 MHz).⁶⁴

25. Other parties likewise claim that the introduction of new fixed and mobile services into a band that was previously identified solely for MSS undermines the premise for adoption of a two-phase plan. In response to the *AWS Further Notice*, SBE recommends that we immediately move to Phase II because of the introduction of new entrants into the band.⁶⁵ Both SBE and NAB/MSTV state the concern that a one-step BAS relocation could leave substantial amounts of spectrum unused pending MSS deployment – one benefit of a two-phase plan – no longer applies.⁶⁶ In its filings in response to the *ATC Notice*, the 2 GHz Broadcast Group states that the introduction of terrestrial services into the band necessitates that 2 GHz BAS incumbents be relocated in one step in all markets because of the likelihood that the band will be used more quickly and more robustly than would be likely under the prior MSS allocation and before the ATC decision.⁶⁷

26. Many commenters to the *AWS Further Notice* also claim that a one-phase transition will reduce disruption of BAS services – a significant consideration in the development of the initial relocation plan. NAB/MSTV claims that a one-step process will reduce transaction costs as well as potential BAS interference.⁶⁸ SBE states that any additional initial costs associated with migrating all BAS users to the final channel plan in one step would be offset by the elimination of Phase I rechannalization costs and is appropriate because of the benefit that new entrants will have in obtaining quicker access to the BAS spectrum.⁶⁹ Nucomm, a BAS equipment manufacturer, claims that it will require a “huge and disruptive” effort by both BAS users and equipment manufacturers to effect each phase of frequency relocation, and therefore supports moving directly to a final band plan instead of undertaking the relocation effort twice.⁷⁰

⁶³ NAB Comments to *AWS Further Notice* at 9. See also 2 GHz Broadcast Group Reply Comments to the *AWS Further Notice* at 3 (the 2 GHz Broadcast Group consists of The Walt Disney Company, National Broadcasting Company, Inc., Viacom, Inc., Fox Television Stations, Inc., Tribune Company, Belo Corp., Hearst Argyle Television, Inc., LIN Television Corp., and Gannett Broadcasting Co.).

⁶⁴ NAB Comments to *AWS Further Notice* at 10.

⁶⁵ SBE Comments to the *AWS Further Notice* at 1.

⁶⁶ NAB Comments to the *AWS Further Notice* at 9; SBE Comments to *AWS Further Notice* at 1.

⁶⁷ 2 GHz Broadcast Group Comments to the *ATC Notice* at 1-6. See also NAB/MSTV Reply Comments to the *ATC Notice* at 4-10; Meredith Corporation Reply Comments in to the *ATC Notice* at 2.

⁶⁸ NAB/MSTV Reply Comments to the *AWS Further Notice* at 7.

⁶⁹ SBE Comments to the *AWS Further Notice* at 2.

⁷⁰ Nucomm *ex parte* filing in ET Docket No. 95-18 (filed May 12, 2003) at 6.

27. Commenters in both proceedings also ask that we eliminate market-differentiated relocation procedures. In response to the *AWS Further Notice*, the 2 GHz Broadcast Group claims that there is a “critical need” to ensure uniform use of the relocated BAS facilities that operate in adjacent markets.⁷¹ Similarly, NAB/MSTV supports adoption of a nationwide relocation requirement.⁷² In response to the *ATC Notice*, Andrew Funk – who identifies himself as a 2 GHz BAS frequency coordinator – claims that during the transition period the differing channel plans will reduce the news gathering capabilities of adjacent-market stations operating on a different channel plans and will render coordination of special events (such as sporting events and news coverage of natural disasters) difficult or impossible.⁷³

28. Parties representing MSS interests generally ask that we not modify the existing relocation plan. Calling the current plan “complex but workable,” in its filing in response to the *ATC Notice*, TIA-Satellite claims that a one-step process would require MSS licensees to bear enormous relocation costs, and thus intensify their up-front capital needs, before they even begin service.⁷⁴ TIA-Satellite claims that if we were to allow new entrants into the band and modifying the relocation procedures, we would risk undermining the accommodation the Commission previously determined was necessary in order to ensure MSS viability.⁷⁵ In response to the *ATC Notice*, ICO suggests that MSS-integrated ATC authority did not require large-scale modification of the already established relocation framework,⁷⁶ while Boeing claims that any change to the relocation procedures would call for corresponding changes to the 2 GHz MSS implementation milestones.⁷⁷

29. *Decision.* We believe that the core interests that the Commission considered when it crafted the *MSS Second Report and Order* remain valid. The band will still host MSS licensees, and the unique, integrated nature of BAS has not changed. What has changed is that, in light of the decisions the Commission made in the AWS proceeding, we can expect additional new licensees to occupy the 1990-2025 MHz band. As discussed below, the reallocation changes our expectations as to how MSS and these additional new licensees will use the 1990-2025 MHz band and when these licensees can be expected to relocate BAS incumbents. It is necessary for us to put into place procedures that give new Fixed and Mobile Service entrants a realistic opportunity to seek early use of the band in exchange for the relocation of incumbent users, while minimizing the disruption to BAS incumbents to the extent possible.

30. Of the 15 megahertz of spectrum that we have reallocated from MSS in the 1990-2025 MHz band to support new Fixed and Mobile services, two thirds occupies the lower end (1990-2000 MHz) of the band and one third is situated at the upper end (2020-2025 MHz). The twenty megahertz of spectrum that remains for the four MSS licensees is situated in the 2000-2020 MHz portion of the band. Phase I of the transition was crafted so that BAS licensees would cease use of the frequencies occupied by the existing BAS channel 1 (1990-2008 MHz) in order to allow MSS entry into the band, but could

⁷¹ 2 GHz Broadcast Group Reply Comments to the *AWS Further Notice* at 3.

⁷² NAB/MSTV Comments to the *AWS Further Notice* at 11.

⁷³ Funk Comments to the *ATC Notice* at 3-4.

⁷⁴ TIA-Satellite Comments to the *AWS Further Notice* at 6-7.

⁷⁵ *Id.* at 5-6.

⁷⁶ ICO Reply Comments to the *ATC Notice* at 13-14.

⁷⁷ Boeing Reply Comments to the *ATC Notice* at 9-10.

continue to use channel 2 until there were a significant number of MSS entrants so as to require use of the 2008-2025 MHz band. Now, however, more than half of the Phase I spectrum will be used for new Fixed and Mobile applications, such as AWS. Because each MSS licensee will be eligible to choose a five megahertz Selected Assignment in the revised MSS allocation, only one MSS licensee will be able to operate in the portion of the band that contains spectrum that will be available under Phase I of the relocation plan.⁷⁸ In the best case – one in which the first MSS entrant selects the lowest portion of the band⁷⁹ – the entry of the second MSS licensee will trigger Phase II of the relocation plan. If the first MSS licensee instead were to choose an assignment at 2005 MHz, 2010 MHz or 2015 MHz, its entry would immediately trigger Phase II.

31. We conclude that the practical effect of these changed circumstances is that new MSS licensees will begin using Phase II spectrum (2008-2025 MHz) sooner than was anticipated in the *MSS Second Report and Order*. Under the revised MSS allocation, no more than one MSS licensee may operate in the Phase I spectrum.⁸⁰ The second MSS licensee seeking to begin operations (assuming the first chooses 2000-2005 MHz as its Selected Assignment) would initiate the Phase II relocation process.⁸¹ In order to meet the milestone requirements for MSS licensees – which require, for example, that non-GSO MSS licensees construct and launch the first two satellites in their system by January 17, 2005 – MSS licensees will need to act quickly to deploy their systems and it is therefore highly likely that BAS relocation to the Phase I channels would not be complete when Phase II starts.

32. The initiation of the Phase I relocation and quick transition to Phase II would undercut one rationale for a two-phase transition – that the potential to leave substantial amounts of spectrum

⁷⁸ Each “Selected Assignment” is created by dividing the available MSS spectrum into distinct segments of equal bandwidth, based on the number of licensees. Each MSS licensee may select one of these segments on which to conduct its primary MSS operations. Based on the revised MSS band plan and the four current MSS licensees, the Selected Assignment calculation is as follows: 20 megahertz uplink band plus 20 megahertz downlink band divided by four licensees – or 5 megahertz paired with 5 megahertz per licensee. On July 24, 2003, the National Association of Broadcasters and the Association for Maximum Service Television, Inc. filed a Petition seeking clarification that the discussion of MSS licensees’ “primary” access to a portion of spectrum within the revised 2 GHz MSS band does not give MSS operators expanded rights vis-à-vis BAS licensees that currently occupy the band. See Petition for Clarification of the National Association of Broadcasters and the Association for Maximum Service Television, Inc., File Nos. 188-SAT-LOI-97; SAT-MOD-20020726-00113 et al.; 187-SAT-P/LA-97(96); 26/27/28-DSS-P-94 et al. (filed July 24, 2003). That is correct. An incumbent BAS licensee that holds “primary” status in this band will retain such status until it is relocated, ceases operation, or becomes secondary by operation of the sunset date, as described in detail in the *MSS Second Report and Order*, and as modified herein.

⁷⁹ For example, ICO has constructed its satellites to operate across the 1990-2015 MHz portion of the band. *AWS Third Report and Order*, 18 FCC Rcd 2223 at 2241, para. 35 n.100. In addition, the 2000-2010 MHz band overlaps with globally harmonized MSS spectrum, whereas the 2010-2020 MHz band overlaps with spectrum that has been designated for MSS use only in Region 2. Because some MSS licensees have indicated that they planned their systems to maximize use of the globally harmonized spectrum, it is reasonable to expect the first MSS licensees to seek to use the lower portion of the revised MSS band.

⁸⁰ Phase I spectrum under the revised MSS allocation consists of the 2000-2008 MHz band. Because there are currently four MSS licensees who will each choose a 5 MHz selected assignment in the 2000-2020 MHz MSS band, and because each licensee must choose a Selected Assignment that consists of an integer multiple from the band edge, the only option for a MSS licensee that wishes to operate entirely within the Phase I spectrum is to choose 2000-2005 MHz as its Selected Assignment.

⁸¹ Under the current plan, Phase II is slated to begin “when the 18 megahertz of Phase I spectrum is no longer sufficient to meet MSS requirements,” *MSS Second Report and Order*, 15 FCC Rcd at 12326, para. 30.

unused for a long period of time would result in inefficient use of valuable 2 GHz spectrum.⁸² In addition, a two-phase transition was an appropriate means of spreading out overall MSS relocation costs when it appeared that MSS licensees would begin operations within the Phase I spectrum and would not need Phase II spectrum until much later – after their systems had grown and matured. Under that scenario, a multi-phase approach would reduce initial costs to MSS entrants because a smaller number of BAS licensees (those in markets 1-100) would need to be relocated during Phase I, and because it is more likely that existing BAS equipment could be retuned (versus replaced) in order to operate in 14.5-15 megahertz-wide channels (versus the final 12.5 megahertz-wide channels).⁸³ This plan also would have minimized the initial costs incurred by the Phase I MSS licensees.⁸⁴ At that time, MSS system proponents were “at widely differing points in the process of preparing to begin service.”⁸⁵ Now, due to impending milestones, the difference in time between an “early” MSS entrant and a “later” MSS entrant will necessarily be small.

33. Were we to retain the two-phase relocation approach, MSS licensees would be responsible for the costs of relocating some BAS licensees to the Phase I channel plan, plus the costs of relocating all BAS licensees to the Phase II channel plan soon after. This situation would negate any cost-spreading benefits that were envisioned by a two-phase approach, and might even increase overall relocation costs over a relatively short term.⁸⁶ If Phase II of the transition is initiated during the time in which Phase I relocations are taking place, BAS operations may be on three different band plans, and some BAS licensees would face the disruption and down time associated with being twice relocated in a short period of time.

34. The *MSS Second Report and Order* also adopted a two-phase relocation plan because of the “significant likelihood” that little or no new equipment that would operate in the Phase II channels would be manufactured in time for MSS to begin service.⁸⁷ Much of the new equipment was anticipated to be purchased during Phase II of the transition, at which time the Commission predicted that digital BAS equipment would “benefit from more time for design development, becoming higher capacity, smaller, less expensive, and less power-intensive.”⁸⁸ Such developments have taken place. BAS manufacturers now offer extensive lines of digital equipment that are designed to operate in a variety of

⁸² *Id.*, 15 FCC Rcd at 12327, para. 34 (stating that a phased approach will “assur[e] efficient use of the spectrum.”) We also note that, although some time will be required to establish service rules and license new Fixed and Mobile entrants before they can secure entry into the band, the entry of these new AWS licensees may occur relatively quickly – especially in relation to the extended period of time some commenters had expected before MSS licensees would begin to use Phase II spectrum in the 2008-2025 MHz band. Thus, we can expect the band to be more fully and more quickly used by the combination of the remaining MSS licensees and new AWS licensees than was anticipated in the *MSS Second Report and Order*, when the band was to be exclusively used by MSS licensees whose systems were expected to be deployed and to grow consistent with then-distant milestones.

⁸³ *See id.*, 15 FCC Rcd at 12338, para. 67 (concluding that “much of the total cost of the BAS relocation is deferred to Phase II”).

⁸⁴ *Id.*

⁸⁵ *Id.*, 15 FCC Rcd at 12330, para 43.

⁸⁶ *See* SBE comments to the *AWS Further Notice* at 2 (“th[e] increased hardware costs [associated with immediately beginning Phase II] would be largely offset by savings from MSS not having to reimburse broadcasters for the time and effort needed to make two conversions: first to Phase I, and a second time to Phase II.”).

⁸⁷ *MSS Second Report and Order*, 15 FCC Rcd at 12325, para. 25. The Commission had not yet issued licenses to the MSS applicants at the time the plan was adopted.

⁸⁸ *Id.*, 15 FCC Rcd at 12327, para. 35.

channel widths, including the narrow channels associated with Phase II.⁸⁹ Moreover, digital equipment has been available for a sufficient time, in such quantity, and such cost that broadcast stations buying new equipment have begun purchasing digital ENG equipment.⁹⁰ At the time the Commission developed its relocation plan, digital equipment for one BAS link was estimated to cost \$93,000.⁹¹ Recent filings in the docket reflect lower cost projections. SBE now estimates relocation costs for a BAS link to be between \$20,000 and \$25,000 (for a receive site) and between \$40,000 and \$55,000 (for a typical ENG vehicle).⁹² ICO has derived similar cost estimates, based on its separate informal discussions with manufacturers of 2 GHz capable digital BAS equipment.⁹³ A survey of the broadcast industry conducted by the Ad Hoc 2 GHz Reallocation Committee in September 2003 estimated the total population of 2 GHz transmitters and receivers in use at television stations in the United States and projected an overall cost of \$397 million to convert 2 GHz ENG services to digital operation and as much as \$115 million to convert 2 GHz fixed links to digital operation.⁹⁴ We note that the BAS relocation cost estimates based on the Ad Hoc Survey compare favorably to overall 2 GHz MSS relocation costs of up to \$3 billion that had been estimated when the MSS allocation was initially proposed,⁹⁵ and support our overall conclusion that BAS equipment that can operate in the Phase II frequencies is now both readily available and available at a cost that is less than that which was anticipated at the time the relocation plan was adopted.

35. Collectively, all of these factors make the Phase I relocation plan no longer practical. We will initiate Phase II of the transition by way of this Report and Order.⁹⁶ Our decision to initiate Phase II immediately is consistent with suggestions made by several commenters, including SBE.⁹⁷ As a practical

⁸⁹ See, e.g., Nucomm *ex parte* filing in ET Docket No. 00-258 (filed May 12, 2003) (describing its 2 GHz BAS equipment line and listing other manufacturers of digital 2 GHz BAS equipment); SBE *ex parte* filing in ET Docket No. 95-18 (filed April 3, 2003) at 5 (stating that “BAS equipment is being manufactured and sold as standard equipment today with the current technology mature enough to support adjustable COFDM bandwidths of 6, 7, or 8 MHz digital pedestals.”). A survey of manufacturers’ websites shows availability of digital BAS equipment, including models that allow users to operate on band plans of varying widths. See, e.g., MRC (www.mrcbroadcast.com) and Global Microwave Systems, Inc. (www.gmsinc.com).

⁹⁰ See SBE *ex parte* filing in ET Docket No. 95-18 (filed April 3, 2003) at 6-7.

⁹¹ “Reduced ENG Band Causes Concern,” *TV Technology*, Sept. 25, 1997 at 28.

⁹² See SBE *ex parte* filing in ET Docket No. 95-18 (filed April 3, 2003) at 7.

⁹³ ICO *ex parte* filing in ET Docket No. 95-18 (filed Oct. 9, 2003) at 2.

⁹⁴ Ad Hoc 2 GHz Reallocation Committee *ex parte* filing in ET Docket No. 95-18 (filed October 15, 2003) (Ad Hoc Survey). We note that ICO has questioned whether these figures under-represent the total relocation cost and claims that the survey results support a \$1 to \$2 billion relocation cost estimate. ICO *ex parte* filing in ET Docket No 95-18 (filed Oct. 31, 2003) at 2. We recognize that the Ad Hoc Survey can only serve as a rough estimate of BAS relocation costs. For example, ICO’s projection may not account for the larger response rate of large market BAS stations, which will likely have more BAS equipment to relocate, and thus may over-represent relocation costs. However, because the Ad Hoc 2 GHz Reallocation Committee does not attempt to quantify the number of state and national networks, cable entities, low power stations and television stations licensed in Puerto Rico, it may under-represent certain relocation costs. See Ad Hoc Survey at 3, n.8.

⁹⁵ MSS Coalition Petition for Reconsideration in ET Docket 95-18 (filed Mary 20, 1997) at 25.

⁹⁶ Except as noted below, our rules will take effect 30 days after publication of the Report and Order in the *Federal Register*. For purposes of calculating future dates – such as the sunset date or the end of the mandatory negotiation period – we will begin counting from the date that this Report and Order is published in the *Federal Register*. As described *infra*, we also establish a fixed sunset date for the relocation of FS incumbents.

⁹⁷ See, e.g., SBE Comments to the *AWS Further Notice* at 1; 2 GHz Broadcast Group Reply Comments to the *AWS Further Notice* at 3.

matter, because the rapid introduction of Phase II that would likely occur were we to retain the existing rules would eviscerate the benefits associated with Phase I of the transition, this decision simplifies what would otherwise become a complex relocation procedure with minimal attendant benefits. For the reasons described above, we can no longer conclude maintaining the existing two-phase relocation procedures strikes the appropriate balance that is “not unreasonably burdensome upon MSS, while also fair to the incumbents.”⁹⁸ Given the subsequent developments in the 1990-2025 MHz band, our decision to initiate Phase II more effectively meets this goal.

36. The initiation of Phase II will allow us to supersede the remaining mandatory negotiation period for Phase I, which was due to end on November 13, 2003. Because the rules we adopt herein may not take effect before November 13, we will, effective immediately, extend the stay of the Phase I mandatory negotiation period that was adopted in the *Third Suspension Order* until such time that the rules become effective.⁹⁹

37. Our decision to begin Phase II immediately will also afford MSS licensees greater opportunity to exercise the authority they have been granted to operate on a secondary basis to other MSS licensees when operating within the MSS band but outside their Selected Assignment. Under our rules, BAS licensees retain a primary authorization with respect to MSS licensees operating outside their Selected Assignments until the BAS incumbents are relocated, cease operation, or become secondary by operation of the sunset date. Under the one-phase relocation we adopt, all BAS operations in the 1990-2025 MHz band will either have been be relocated (in markets 1-30) or must cease operation (in all other markets) at the time the first 2 GHz MSS licensee begins operations.

38. We will also retain the existing market-segmented approach whereby MSS licensees relocate BAS facilities in markets 1-30 before they begin operations, markets 31-100 within three years after MSS begins operations, and markets 101 and above within five years after MSS begins operations. Those parties that asked us to require that all BAS markets be relocated at once base their arguments, in large part, on the difficulties that will be faced by BAS licensees operating on different channel plans.¹⁰⁰ The Commission previously considered these arguments in the *MSS Second Report and Order*, and ultimately concluded that a market-segmented approach was best suited to balance the needs of the current and future users of the band, notwithstanding the added challenges to BAS operations.¹⁰¹ Nevertheless, we also recognize that by initiating Phase II, BAS licensees in markets 31-100 will have to operate on five, as opposed to six, channels for up to three years.¹⁰² This situation would occur under our current rules if Phase II is initiated before Phase I is complete. Although licensees will benefit by being certain that they will be relocated to a final band plan in a set time period and in a single step, we also recognize that operation of five channels will create short-term burdens for some BAS licensees.

39. There are several factors can serve to mitigate any difficulties that may occur in coordinating BAS use in nearby markets that operate on different channel plans during the short duration of the transition. Although the final channel plan calls for the operation of seven channels in a smaller amount of spectrum, the bands of three of the new channels will be fully within the bands of three of the

⁹⁸ *MSS Second Report and Order*, 15 FCC Rcd at 12330.

⁹⁹ See *Suspension Order*, 17 FCC Rcd at 15143, para. 5 (reserving the option to lengthen or shorten the suspension of the expiration date as circumstances warrant).

¹⁰⁰ See, e.g., SBE Reply Comments to the *AWS Further Notice* at 2.

¹⁰¹ *MSS Second Report and Order*, 15 FCC Rcd at 12325-12326, paras. 25-28.

¹⁰² See, e.g., NAB and MSTV *Notice of Ex Parte* filing in ET Docket No. 95-18 (filed Sept. 2, 2003) at 1.

existing BAS channels, as is illustrated in Table 1.¹⁰³ In addition, at least some new BAS equipment is expected to be designed so that it can readily be programmed to operate on both new and old BAS channels.¹⁰⁴ We also note that use of BAS channels 8 and 9 is unaffected by the transition. Our decision to initiate Phase II relocation procedures will, in some ways, actually serve to reduce the difficulties associated with BAS licensees operating on different channel plans in different markets at the same time. Because there are now only two channel plans for the BAS band, licensees will not have to account for the possibility of concurrent BAS use of three separate channel plans.¹⁰⁵

40. MSS licensees – for whom cost deferral continues to be a concern – will continue to occupy former BAS frequencies. We see no reason to change our decision to require relocation on a market-segmented basis because other types of new licensees will also occupy the band.¹⁰⁶ As SBE notes, it is unclear whether MSS or new terrestrial licensees will be the first to deploy service.¹⁰⁷ Because MSS licensees have significant up-front costs and cannot engage in a gradual buildout because of the large geographic reach of an MSS signal, a MSS licensee that is the first entrant in the band will still be required to pay substantial up-front BAS relocation costs and seek pro-rata reimbursement from subsequent licensees, without the benefit of having had a revenue stream as it builds out its system.¹⁰⁸ A market-differentiated approach allows for important cost-spreading benefits, particularly because the cost deferrals that were anticipated with a delay between Phase I and Phase II are no longer available.¹⁰⁹ For

¹⁰³ We believe that TV broadcasters, network entities, and CARS mobile licenses will promote efficient use of the BAS channels by choosing to take the following actions: Out-of-market 2 GHz TVPU stations could either employ equipment that can switch between the two band plans or use the three 12 MHz BAS channels (1, 4 and 7) that are fully within the existing BAS channels. Likewise, in markets using the existing BAS channel plan, use of channels 3, 5 and 7 could be reserved, to the extent possible, for out-of-market TVPU stations that are operating on the new 12 MHz channel plan. New BAS channel 4 also could be used for nationwide airborne TVPU use. If a 2 GHz fixed licensee needs a digital channel and it cannot be otherwise accommodated, then we recommend that the new licensee use new BAS channel 1 first and that new BAS channel 7 be considered next, even though doing so would reduce the number of channels available for out-of-market TVPU stations. We make this recommendation in order to place fixed stations on the outermost channels, which would best protect adjacent-band AWS mobile reception. Where practical, we also recommend that all 2 GHz BAS fixed stations be relocated to 7 GHz and 13 GHz, especially fixed stations operating on current BAS Channels 1 and 2.

¹⁰⁴ See *infra* n. 133 and accompanying text.

¹⁰⁵ We note that NAB/MSTV, in requesting that all BAS licensees be moved to the Phase I channel plan before MSS begins operations, states that “[w]ere all stations operating under the BAS Phase I channels before Phase II begins, as Broadcasters request, no more than two different channel plans will ever be in place at the same time, and the time when small markets will be operating under different plans than larger markets would be reduced.” NAB/MSTV Petition for Partial Reconsideration of the *MSS Second Report and Order* at 6. Our decision to initiate Phase II delivers these same benefits.

¹⁰⁶ However, as noted below, we find that special relief is warranted for a subgroup consisting of those fixed stations operating on channels 1 and 2 in markets 31 and above.

¹⁰⁷ SBE *ex parte* filing in ET Docket No. 00-258 (filed April 3, 2003) (stating that “Because MSS has been allowed a terrestrial component, it may be assumed that MSS construction will occur earlier that it would have had only the space component been permitted. The timetable for AWS construction is uncertain due to the apparent application of the statutory auction requirement for all CMRS type facilities”).

¹⁰⁸ *MSS Second Report and Order*, 15 FCC Rcd at 12325, para. 27.

¹⁰⁹ See *id.*, 15 FCC Rcd at 12327, para. 35. See also ICO *ex parte* filing in ET Docket No. 95-18 (filed Oct. 9, 2003) at 2-4 (asking that the Commission first analyze the extent of BAS relocation costs and the allocation of those costs among new entrants before undertaking any modification of the markets required to be relocated, due to the potential financial consequences to MSS entrants).

example, although the Ad Hoc Survey shows that the greatest projected relocation costs will occur in markets 1-30, these costs are approximately 40 percent of the estimated cost to relocate all markets.¹¹⁰ Those commenters that assert that the market-segmented approach is unnecessary incorrectly assume that non-MSS licensees will be the first to initiate service in the 1990-2025 MHz band and, as a result, do not account for the unique needs of MSS licensees.¹¹¹ In addition, the introduction of ATC does not alter our conclusion: because MSS licensees are obligated to begin satellite service before offering terrestrial services, our decision to permit ATC operations will not reduce up-front costs or provide an earlier revenue stream to defray such costs.¹¹²

41. Finally, we find that the other factors that led to the adoption of a market-segmented approach are still valid. Because new equipment is readily available, one concern that drove the original two-phase relocation plan – that additional time would be needed for equipment manufactures to develop and build equipment that operated in the Phase II channels – is no longer at issue. Nevertheless, we recognize that it will still take time to retune or replace existing BAS equipment. For example, SBE estimates that it takes one month to transition one electronic news gathering transmit and receive system at an average television station.¹¹³ To require the relocation of all BAS facilities before MSS or other new licensees begin service in the band would result in intolerable delays in a process that has already been marked by longer-than-anticipated entry of new services into the band. Such a course would severely undermine the ability of MSS licensees to secure entry into the band. Accordingly, our decision to retain a market-segmented approach allows us to maintain a relocation plan that is not overly burdensome to MSS entrants but that is still fair to incumbents in the band.¹¹⁴

42. The elimination of Phase I requires the slight modification of several procedures. First, the restriction on the use of the 2023-2025 MHz band until all BAS incumbents have been relocated to the final band plan is no longer appropriate.¹¹⁵ This restriction was designed to allow BAS licensees to use channel 2 under a channel plan that we will no longer be using. Moreover, we have subsequently reallocated the 2023-2025 MHz band to fixed and mobile services. Next, we re-establish the mandatory negotiation period between new licensees and BAS licensees in the top 30 markets. As discussed above, this negotiation period was scheduled to end on November 13, 2002, for Phase I, under the terms of the *Third Suspension Order*. Now that we have resolved the issues that prompted us to suspend expiration of the mandatory negotiation period, we anticipate that MSS licensees will move quickly to resume the negotiation process to relocate BAS incumbents in the 1990-2025 MHz band. As such, we establish a new mandatory negotiation period between MSS licensees and BAS incumbents in markets 1-30 (and for all fixed BAS facilities regardless of market, as described in the Memorandum Opinion and Order, *infra*)

¹¹⁰ Ad Hoc Survey at 11, fig. 11.

¹¹¹ See, e.g., NAB/MSTV comments to the *AWS Further Notice* at 11; 2 GHz Broadcast Group Reply Comments to the *ATC Notice* at 3.

¹¹² See, e.g., NAB/MSTV Reply Comments to the *AWS Further Notice* at 6 (stating that ATC will accelerate deployment of and provide ongoing income to support BAS relocation).

¹¹³ SBE *ex parte* filing in ET Docket No. 00-258 (filed April 3, 2003) at 7; See also ICO *ex parte* filing in ET Docket No. 95-18 (filed Oct. 31, 2003) at 5.

¹¹⁴ See, e.g., ICO *ex parte* filing in ET Docket No. 95-18 (filed Oct. 9, 2003); ICO *ex parte* filing in ET Docket No. 95-18 (filed Oct. 31, 2003) (discussing financial issues that MSS licensees would face if the market differentiated relocation approach was substantially altered to, for example, require that the BAS facilities in the top 100 markets be relocated prior to the time in which MSS begins operations).

¹¹⁵ See NAB Comments to the *AWS Further Notice* at 10.

that ends one year from publication of this Report and Order in the *Federal Register*.¹¹⁶ This time period is appropriate to maintain the balance of equities between MSS licensees and BAS incumbents given the amount of time that has already passed since adoption of the *MSS Second Report and Order*, and the upcoming MSS milestone requirements. We also modify our rules to make explicit that a one-year mandatory negotiation period for BAS markets 31 and above starts when the first MSS licensee begins operations.¹¹⁷ Finally, we specify that the relocation procedures will apply to the BAS markets as they existed upon adoption of the *MSS Second Report and Order* – June 27, 2000. Because these rules are based on a ranking of DMAs, and because DMAs and their rank are subject to modification, it is important for us to specify a fixed point in time in order to prevent potential confusion or frustrate negotiations between parties. Because we are beginning Phase II without substantially modifying the underlying relocation process, and because parties may have already made relocation and negotiation plans, the most appropriate course is for us to use the DMAs as they existed at the time the Commission adopted the *MSS Second Report and Order*.

43. Under our existing rules, BAS licensees in markets 31 and above would have had to stop using BAS channel 2 after the Phase II negotiations began but before MSS operations actually commenced in the 2008-2025 MHz band.¹¹⁸ Because BAS incumbents have not had the benefits of relocation under Phase I, we find this requirement is overly burdensome and we will ease our rules to allow all BAS licensees to use channels 1 and 2 (*i.e.* the 1990-2025 MHz band) while new licensees are negotiating with BAS licensees in the top 30 markets. BAS operations on the 1990-2025 MHz band in these markets must instead end once the first MSS licensee begins service.¹¹⁹

44. We decline to consider more comprehensive modifications to our relocation procedures. We reject the Joint Commenters' suggestion that we explore such revisions as part of a Notice of Proposed Rulemaking as unnecessarily burdensome and time consuming.¹²⁰ As we noted above, the core

¹¹⁶ Phase II, and the accompanying mandatory negotiation period, previously was scheduled to begin when any MSS licensee informed BAS licensees, in writing, of its desire to negotiate for relocation. *See MSS Second Report and Order*, 15 FCC Rcd at 12331, para. 46. We see no need to adopt 2 GHz Broadcast Group's suggestion that we tie the start of the negotiation period for Phase II spectrum to the completion of our reallocation of the reclaimed BAS spectrum. *See 2 GHz Broadcast Group Reply Comments to the ATC Notice* at 4. Completion of the reallocation of the reclaimed BAS spectrum could, for example, be viewed as coinciding with the issuance of the *AWS Third Report and Order*, a date which has already passed. Our decision to establish a fixed end date for the mandatory negotiation period also makes unnecessary the requirement that the first MSS licensee in Phase II spectrum provide written notification to the Commission and all other MSS licensees that it has begun the negotiation process. *See MSS Second Report and Order*, 15 FCC Rcd at 12331, para. 46.

¹¹⁷ *See MSS Second Report and Order*, 15 FCC Rcd at 12339, para. 73.

¹¹⁸ *See 47 C.F.R. § 74.690(e)(4)*. BAS operations on the 2008-2025 MHz band in markets 31 and above must end “[a]s of the date that any MSS Licensee announces its intention to begin operations in the 2008-2025 MHz band.” The date that “[a]ny MSS Licensee announces ... its intention to begin operations in the 2008-2025 MHz band” also represents the beginning of the two-year negotiation period with BAS licensees in markets 1-30. Because MSS operations cannot begin until after BAS licensees in markets 1-30 are first relocated, a significant amount of time could pass between the date on which BAS operations in markets 31 and above cease and the date in which MSS operations actually commence.

¹¹⁹ We conclude that we can best serve the needs of BAS licensees by allowing them to use the 1990-2025 MHz band for as long as possible. Because MSS licensees will be in the process of relocating BAS facilities in markets 1-30, there will be areas in which the 2000-2020 MHz band is available for any necessary testing prior to the initiation of actual MSS service.

¹²⁰ Joint Commenters Reply Comments to the *AWS Further Notice* at 5. Because the overall principle that new licensees may secure early entry into the 1990-2025 MHz band is unchanged by the addition of terrestrial licensees

(continued...)

interests that the relocation plan was designed to accommodate are unchanged. In addition, the ability of MSS to make quick use of the 2000-2020 MHz band would be frustrated were we to undertake a comprehensive rulemaking proceeding to substantially revise the relocation process. The modified version of the existing plan we are adopting serves the goals of our relocation policy and also accounts for the special circumstances involved in the transition of BAS and introduction of satellite services into the band.

3. Memorandum Opinion and Order

45. *Sunset Date.* In its Petition for Partial Reconsideration, NAB/MSTV requests that the sunset date after which new MSS licensees are not required to relocate BAS operations be eliminated, or at a minimum, revised to take effect ten years after the start of Phase II negotiations.¹²¹ It claims that the pace of relocation will be determined largely by MSS licensees, and that it is unlikely that the smallest BAS markets will be relocated before the scheduled 2010 sunset date. ICO, in its response, claims that the Commission afforded consideration to these concerns when it issued the *MSS Second Report and Order*.¹²² In subsequent pleadings, other commenters also suggest that we revise or eliminate the sunset date.¹²³

46. As an initial matter, we continue to believe that a sunset date is a vital component of the Emerging Technologies relocation principles. As stated in the *MSS Second Report and Order*, a sunset date provides a measure of certainty for new technology licensees, while giving incumbents time to prepare for the eventuality of moving to another frequency band.¹²⁴ In the *MSS Second Report and Order*, the Commission selected a ten-year sunset after the beginning of the negotiation period because that was the date that had been used for microwave relocation negotiations, and because the record contained “no persuasive reason” to adopt a different date.

47. We recognize that the unresolved issues relating to MSS deployment have resulted in limited negotiation between BAS and MSS licensees to date.¹²⁵ Now that we have addressed allocation

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into the class of new users of the band, the type of wholesale revision of the relocation plan likely associated with a Notice of Proposed Rulemaking is unnecessary and, as described in the text, would be counterproductive. *See also* ICO Reply Comments to the *ATC Notice* at 13-14 (arguing that the Commission’s inquiry into allowing terrestrial services by MSS licensees did not represent an open-ended invitation to modify any and all relocation rules). Because the fundamental construct of the BAS relocation is not changed, it is not necessary for us to reconsider MSS deployment rules (including milestone review dates) in this proceeding, as is suggested by Boeing.

¹²¹ NAB/MSTV Petition for Partial Reconsideration of the *MSS Second Report and Order* at 8.

¹²² ICO Response to Petitions for Reconsideration and for Partial Reconsideration of the *MSS Second Report and Order* at 4.

¹²³ *See, e.g.*, 2 GHz Broadcast Group Reply Comments to the *ATC Notice* at 5 (asking that we suspend the sunset date until after the Commission allocates the BAS spectrum).

¹²⁴ *MSS Second Report and Order*, 15 FCC Rcd at 12333, para. 52. Because our Emerging Technologies principles are intended to allow new licensees early entry into the band and are not designed as open-ended mechanism for providing relocation compensation to displaced incumbents, it would be inconsistent with those principles to eliminate the sunset date even if, as a practical matter, we expect that all BAS incumbents will be relocated prior to that date.

¹²⁵ *Accord* 2 GHz Broadcast Group Reply Comments to the *ATC Notice* at 5 (noting that has been minimal opportunities for relocation while the various proceedings affecting this band have been pending).

matters for the 2 GHz MSS band, we find that revising a sunset date is appropriate. Further, our decision to initiate the Phase II negotiation period by way of this Report and Order is similar to our earlier decision to begin the Phase I negotiation period after publication of the *MSS Second Report and Order* in the *Federal Register*, which also began the original sunset date. In both cases, the beginning of the negotiation period marks a starting point for active negotiations between incumbents and new licensees. Accordingly, we are revising the sunset date as follows: a new licensee's obligation to relocate an incumbent BAS operator in the 1990-2025 MHz band will end ten years after the publication of this Report and Order in the *Federal Register*.¹²⁶

48. *Special Considerations for Fixed Facilities.* Under the two-phase relocation policy, BAS licensees would first cease operations on the 1990-2008 MHz band once MSS operations begin and, during Phase II, would stop using the 2008-2025 MHz band.¹²⁷ In their Petition for Reconsideration of the *MSS Second Report and Order*, the Broadcast Filers ask that we expand mandatory relocation to those BAS facilities operating on channel 1 (1990-2008 MHz) in markets 31 and above that cannot be retuned and refiltered to accommodate the Phase I channelization.¹²⁸ SBE, in a substantially similar request, asks that we require the relocation of all non-frequency agile links in both BAS channels 1 and 2 (1990-2025 MHz) outside the top 30 markets.¹²⁹ The Broadcast Filers identify a number of stations that operate intercity relays on the 1990-2008 MHz band that they claim cannot be reprogrammed, and ask that we require MSS licensees to relocate these facilities before beginning service.¹³⁰ The Broadcaster Filers' petition was supported by NAB/MSTV¹³¹ and the Arkansas Broadcasters Association.¹³² ICO suggests that the number of single-channel transmitters and receivers that could not be retuned to accommodate the transition plan is small in number and urges the adoption of detailed procedures for identifying and accommodating such equipment.¹³³ The Broadcast Filers dispute ICO's claim that they overstated the number of facilities that fall into this category.¹³⁴

49. The situation the Broadcast Filers describe has the potential to disrupt some BAS operations and uniquely burden a limited class of licensees in a manner not considered in the *MSS Second*

¹²⁶ We note that the revised sunset date does not alter a MSS licensee's obligation to relocate incumbent BAS users in markets 31-100 and 101-210 within three and five years after the first MSS licensee begins service, so long as the sunset date has not been reached by the time the three- and five-year periods run.

¹²⁷ By initiating Phase II and adopting the modifications described *supra*, we effectively require all BAS licensees in markets 31 and above to cease use of the entire 1990-2025 MHz band when the first 2 GHz MSS licensee begins operations.

¹²⁸ Cosmos Broadcasting, Cox Broadcasting and Media General (collectively, "Broadcast Filers") Petition for Partial Reconsideration of the *MSS Second Report and Order* at 2-3.

¹²⁹ SBE Petition for Partial Reconsideration of the *MSS Second Report and Order* at 8.

¹³⁰ Broadcast Filers Petition for Partial Reconsideration of the *MSS Second Report and Order* at 2-3.

¹³¹ NAB/MSTV Comments on Petitions for Reconsideration of the *MSS Second Report and Order* at 3.

¹³² Arkansas Broadcasters Association Reply Comments to the *MSS Second Report and Order*.

¹³³ ICO Response to Petitions for Reconsideration and for Partial Reconsideration of the *MSS Second Report and Order* at 8.

¹³⁴ See Broadcast Filers Reply to ICO Response to Petitions for Reconsideration and for Partial Reconsideration of the *MSS Second Report and Order*.

Report and Order.¹³⁵ For example, loss of the studio-to-transmitter links for KALB-TV and KBSD-TV, as described in the Broadcast Filers' petition, would likely necessitate the stations to obtain alternate facilities to transport their signal to their transmitter for broadcast. Otherwise, these licensees would have to wait up to three years for relocation under the relocation procedures. We do not believe that such an outcome "minimize[s] the disruption and down time BAS licensees will undergo in the transition, in order to continue day-to-day high quality BAS service."¹³⁶ Moreover, while the Commission found in the *MSS Second Report and Order* that the number of BAS channels could be reduced during the transition, it discussed the aggregate need for seven channels in a particular market and not the unique needs of incumbent licensees in the 1990-2025 MHz band with facilities that cannot operate on the remaining available channels.¹³⁷ Our decision to immediately move to Phase II makes this situation even more acute. Many BAS facilities that potentially could have been retuned to operate in the interim Phase I channels will likely need to be replaced with spectrally efficient digital equipment in order to operate in the narrow Phase II channels.

50. As evidenced by the examples cited by the Broadcast Filers, the elimination of BAS operations in the 1990-2025 MHz band can be expected to have a significant effect on fixed BAS facilities, such as intercity relays and studio-to-transmitter links. By contrast, mobile BAS facilities are generally licensed from band edge to band edge (*i.e.* authorized to operate in any one of the BAS channels) and should not suffer such harm.¹³⁸ In a survey of our licensing database, we find that there are 455 fixed BAS stations operating on channels 1 and 2, as well as 44 other fixed facilities operating on these channels.¹³⁹ In addition, three TV pickup stations operate only on channel 1 and seven TV pickup stations operate only on channel 2. Some of the stations listed above operate in the top 30 markets and are therefore already subject to relocation prior to the start of new services in the band.

51. Accordingly, we will expand our relocation procedures to require fixed facilities operating on the 1990-2025 MHz band in markets 31 and above that are licensed on a primary basis to be relocated on the same schedule as other BAS facilities in the top 30 markets, to the extent that replacement channels are available.¹⁴⁰ Because other BAS facilities in markets 31 and above will not yet be operating on the final channel plan, it may be necessary for these fixed BAS stations to operate within the existing BAS channels – either on those final 12 MHz-wide channels that are completely within an existing BAS channels or by deploying agile equipment that can be readily re-tuned once the final

¹³⁵ The Broadcast Filers describe fixed channel equipment that either was not manufactured with the capability of operating on more than one channel or that cannot be modified because the equipment manufacturer is no longer in operation. Broadcast Filers Petition for Partial Reconsideration of the *MSS Second Report and Order* at 2-3.

¹³⁶ *MSS Second Report and Order*, 15 FCC Rcd at 12326, para. 28.

¹³⁷ See, e.g., *id.*, 15 FCC Rcd at 12327, para. 35 (stating that the relocation plan "ensures the continuity of a seven-channel BAS system where seven channels are most needed [in the top 30 markets], while allowing several years for the relocation of BAS in the Light and Rural markets, where the need for seven channels is less pressing.").

¹³⁸ See Appendix D. By being able to operate on different BAS channels, mobile ENG equipment can successfully operate in remote locations in which the number of other BAS users and the channels they are using can vary by both time and place.

¹³⁹ These include common carrier point-to-point microwave facilities, TV microwave booster, and aural intercity relay links.

¹⁴⁰ To simplify the relocation process, we will apply this requirement to all fixed stations operating on a primary basis in the 1990-2025 MHz band. If a fixed facility can be retuned, then "relocation" of such a facility may be as simple as just retuning the existing equipment.

channelization is adopted within the licensee's market.¹⁴¹ Another option for fixed-link facilities is relocation to higher bands, such as 7 and 13 GHz. In some cases, these bands will allow for relocation in markets where there currently is no availability on existing channels 3-7. If a suitable replacement channel cannot be found within a BAS market for a BAS channel 1 or 2 facility and the parties are unable to agree to an alternative relocation plan as part of the mandatory negotiation process, then the MSS licensee will not be obligated to replace that facility until such time that it is obligated to relocate all BAS facilities in that market.¹⁴² In this situation, the incumbent BAS licensee will still be required to cease use of the 1990-2025 MHz band once the first new licensee begins operations.

52. The relocation of fixed stations on channels 1 and 2 in markets 31 and above will follow the same procedures that we established for the relocation of facilities in BAS markets 1-30, including a mandatory negotiation period that ends one year from publication of this Report and Order in the *Federal Register*. Because these revised relocation procedures are applicable to all fixed BAS stations that operate on a primary basis in markets 31 and above, new licensees will be able to readily identify and account for those fixed facilities subject to relocation.¹⁴³ We realize that our decision will increase the relocation requirements we impose on new MSS entrants in the band, and we expand this obligation only because of the fundamental importance in ensuring continued BAS operations. As with our general relocation procedures (as affirmed, below), fixed BAS stations operating on channels 1 or 2 that were licensed on a secondary basis – *i.e.* BAS applications submitted after release of the *MSS Second Report and Order* on June 27, 2000 – will not be eligible for the expanded relocation procedures. These subsequently licensed BAS entities were aware that BAS use of the 1990-2025 MHz band would be discontinued, and should not receive the windfall of relocation at the expense of new licensees in the band.

53. *Subsequently Licensed BAS Stations.* In the *MSS Second Report and Order*, the Commission decided that those BAS facilities where the receipt date of the initial application was prior to June 27, 2000, the adoption date of the *MSS Second Report and Order*, could continue to operate on a primary basis until relocated or the sunset date.¹⁴⁴ Initial applications filed after that date have been

¹⁴¹ See Table 1. Under the final channel plan, channel 1 (2025.5-2037.5 MHz) will be fully within current channel 3 (2025-2042 MHz). Similarly new channel 4 will be fully within existing channel 5 and new channel 7 will be fully within existing channel 7. An additional option exists: the parties may agree to relocate or retune equipment to operate in existing channels 3-7 until such time that those channels are relocated to the Phase II channel plan. At that time, the BAS incumbents would join their peers who had always been operating in channels 3-7 in seeking relocation to the final Phase II channel plan.

¹⁴² We note that the parties must conduct negotiations in good faith, and we expect them to employ best engineering practices when evaluating whether it is possible to locate a replacement channel within the remaining BAS channels. Because there are a number of options for the relocation of fixed links, including landline links and frequencies outside the 2025-2110 MHz band, we suspect that there will be few, if any, instances in which MSS and fixed BAS licensees will be unable to reach an agreement to relocate a fixed BAS facility.

¹⁴³ We find such a course preferable to any type of self-identification scheme, as discussed by some commenters. See Broadcast Filers Petition for Reconsideration of the *MSS Second Report and Order* at 4. See also ICO Response to Petitions for Reconsideration and for Partial Reconsideration of the *MSS Second Report and Order* at 8. To the extent that there are any fixed stations that can be reprogrammed or retuned at minimal cost to operate in the final Phase II channel plan, such expenses by definition will be small and would likely not outweigh the cost and time burdens associated with the identification, collection, and publication of a registry of fixed stations for which new equipment will be necessary.

¹⁴⁴ 47 C.F.R. §2.106 Footnote NG 156. See also *MSS Second Report and Order*, 15 FCC Rcd at 12335, para. 59. This relocation process also applies to those BAS licenses meeting the cut-off date for which licensees filed subsequent facilities modification applications.

licensed on a secondary basis and, therefore, are not eligible for relocation. NAB/MSTV and SBE ask that we extend the relocation eligibility to include BAS licensees issued after June 27, 2000. NAB/MSTV claims that because the initial applications that have been licensed on a secondary basis will first use the existing (*i.e.* non-Phase II) channel plan that is in effect in their market, they will face the added expense of equipment upgrades once their market begins use of Phase II channels.¹⁴⁵ SBE states that the relocation eligibility cut-off has created a chilling effect on the licensing and use of new BAS facilities because at the time of the *MSS Second Report and Order* the Commission was authorizing digital equipment only on a special temporary authority (STA) basis.¹⁴⁶ It asks us to instead allow for relocation of all BAS facilities whose licenses were granted prior to the Commission's November 11, 2002, *Report and Order* that adopted rules for the licensing of digital BAS equipment.¹⁴⁷

54. We find that the relocation eligibility cut-off date remains appropriate and, therefore, are denying these petitions. None of the subsequent decisions to allow new services in the band or pleadings filed in response to the *MSS Second Report and Order* affects the fundamental decision to provide for an 85 megahertz BAS allocation. Holders of BAS licenses issued after the *MSS Second Report and Order* have known that the Commission proposed to reduce the 2 GHz BAS band to the 85 megahertz allocation in the 2025-2110 MHz band and have an opportunity to consider any additional expenses that may be associated with phased relocation as well as the development, availability, and Commission approval of digital equipment that can be used in the band. SBE claims that the situation “forc[es] an effective freeze on the 2 GHz TV BAS band” until the Commission begins routinely authorizing digital equipment.¹⁴⁸ If licensees have made the economic decision to delay BAS facility deployment pending the authorization of digital equipment, then there should be few, if any, subsequently licensed BAS entities that will actually need to deploy new digital equipment in order to operate in the Phase II band plan. Moreover, equipment manufacturers now produce equipment that readily can be switched to operate on both the existing and new BAS channel plans.¹⁴⁹ Because such equipment is available for new licensees, we believe that the cost of switching to the Phase II channel plan can be greatly minimized for those subsequently licensed BAS entities that must re-tune without reimbursement from MSS licensees. We contrast these new BAS licensees with those existing fixed licensees on channels 1 and 2, for which we are granting additional relocation relief. First, the existing licensees were already entitled to relocation within five years of new use of the band, so our decision to require relocation before new licensees begin service in the band represents a shift in the relocation timing as opposed to an expansion of the number of BAS licensees subject to relocation. In addition, when these existing BAS licensees acquired their

¹⁴⁵ NAB/MSTV Petition for Partial Reconsideration of the *MSS Second Report and Order* at 10.

¹⁴⁶ SBE Petition for Partial Reconsideration of the *MSS Second Report and Order* at 4.

¹⁴⁷ *Id.* At the time NAB/MSTV filed its comments, the Commission had not yet adopted such rules and therefore NAB/MSTV referenced a future occurrence as opposed to this specific date. The November 11, 2002, *Report and Order* updated the BAS rules to, *inter alia*, allow for digital operation in the 2 GHz BAS band. See Revisions to Broadcast Auxiliary Service Rules in Part 74 and Conforming Technical Rules for Broadcast Auxiliary Service, Cable Television Relay Service and Fixed Services in Parts 74, 78 and 101 of the Commission's Rules, *Report and Order*, 17 FCC Rcd 22979 (2002).

¹⁴⁸ SBE Petition for Partial Reconsideration of the *MSS Second Report and Order* at 4.

¹⁴⁹ Nucomm *ex parte* filing in ET Docket No. 95-18 (filed May 12, 2003) at 9-10. Microwave Radio Communications (MRC) also promotes its equipment as being readily adaptable across a variety of frequency bands. See, e.g., http://www.mrcbroadcast.com/datasheets2/Codrunner_2.pdf (describing the Code Runner 2 portable analog/digital transmitter as featuring “Customized Channel Plans” that allow users to set 12, 14, and 17 megahertz band plans “according to [their] needs.”)

licenses, the requirement to cease use of channels 1 and 2 was not in effect because the modified BAS channel plan had not been adopted.

55. *Phase II BAS Channel Plan.* SBE asks us to modify the channel plan that was adopted in the *MSS Second Report and Order* in order to provide consistent channel spacing. Specifically, SBE first asked, as part of its petition for partial reconsideration, that we adopt a uniform 12.1 megahertz channel width in the final channelization plan.¹⁵⁰ Subsequently, SBE refined its proposal to propose the use of seven 12 megahertz channels.¹⁵¹ The revised channel plan will provide for channel center frequencies (and split-channel center frequencies) that fall on integer multiples of 250 kHz.¹⁵² SBE states that this spacing is critical because this is the current step increment for oscillators used in the frequency synthesizers in modern-day 2 GHz TV BAS radios. The use of seven 12 megahertz-wide channels will also allow for two 500 kilohertz-wide data return link (“DRL”) bands – one at each end of the re-farmed 2025–2110 MHz BAS band. SBE explains that these DRL bands would be available for narrowband downstream control channels to TVPU transmitters (such as an ENG truck) for applications such as transmitter power control.¹⁵³ SBE states that the DRL channels could additionally let both ENG crews and news directors know when an ENG path was getting near the “cliff” threshold that applies to digitally modulated signals.¹⁵⁴ SBE envisions twenty 25 kilohertz wide DRL channels at each end of the re-farmed 2 GHz TV BAS band, with reverse band protocols. That is, a TVPU station operating on re-farmed channels 1, 2, 3, 4 or 5 would use one of the twenty DRL channels from the band 2109.5-2100 MHz, and a TVPU station operating on re-farmed channels 4, 5, 6 or 7 would use one of the twenty DRL channels from the band 2025-2025.5 MHz. SBE observes that providing for these DRL channels would still provide seven channel (and split-channel) center frequencies evenly divisible by 250 kilohertz

¹⁵⁰ SBE Petition for Partial Reconsideration of the *MSS Second Report and Order* at 1-6. SBE also asks for modifications in the Phase I channel plan. *Id.* at 2. Because that channel plan will not be used, we dismiss those comments as moot.

¹⁵¹ SBE *ex parte* filing in ET Docket No. 95-18 (filed April 3, 2003) at 9. *See also* SBE Comments in WT Docket No. 00-258 (filed April 16, 2003) at 5.

¹⁵² Under split channel operation, BAS licensees in a market send two BAS signals in the space occupied by a single channel, with each signal overlapping the other, as well as the edge of adjacent channels in some cases. While this practice degrades the quality of the BAS signal, it doubles the channel capacity of BAS. The practice is used by licensees in some of the larger markets to satisfy demands for BAS channels. *See MSS Second Report and Order*, 15 FCC Rcd at 12330, para. 45. *See also* SBE Petition for Partial Reconsideration of the *MSS Second Report and Order* at fig. 2 (illustrating split channel operation on existing BAS channel 3).

¹⁵³ Transmitter power control involves adjusting the transmit power in response to fading or interference conditions. SBE observes that at para. 48 of the *Report and Order* in ET Docket 01-75 (Updating and Harmonizing of the Part 74 BAS Rules), the Commission adopted automatic transmitter power control (“ATPC”) for BAS, even though it recognized that most BAS links wouldn't be able to use this feature, since most BAS links are one-way (*i.e.*, simplex). SBE notes that the creation of downstream narrowband DRL channels would allow ATPC for 2 GHz TVPU operations. Further, because DRL channels would be narrowband and would only need to relay limited data, SBE believes that the DRL transmitter could use low power (perhaps 1 watt) and a very robust and simple modulation type (such as binary frequency shift keying). Further, SBE believes that such a low-power DRL signal, even when co-located with a 2 GHz receiver at an ENG receive-only site, should be a compatible use, if a reverse-band protocol is used.

¹⁵⁴ In digital modulation, performance is given in bit error rate versus E_b/N_o (similar to signal-to-noise ratio). These performance curves resemble a “waterfall curve,” and are quite precipitous for low bit error rates. For a system operating near the threshold (*i.e.* the point at which the curve begins to drop sharply), a small change in E_b/N_o can cause the system to “fall off the cliff” that is represented by the steep curve. The effect is reduced performance or a system failure when the signal level falls below the system's threshold.

intervals.¹⁵⁵ ICO opposes modifications to the band plan we adopted in the *MSS Second Report and Order* on the basis that any change would cause confusion and delay by requiring manufacturers to retrofit existing equipment.¹⁵⁶

56. We find merit in the SBE proposal, as modified. As SBE notes, a prime benefit of this plan is that manufacturers will be able to design for uniform bandwidth ratios. Moreover, by providing for two 500 kilohertz-wide DRL bands, we can promote efficient use of the band by BAS licensees. Although ICO has expressed concerns about the potential difficulties related to the retrofit of existing equipment to meet the revised band plan, we note that because any existing equipment has already been designed to operate on the narrow bandwidths required in Phase II, it should be relatively easy to program this equipment to use the modified channels.¹⁵⁷ Moreover, replacement of the current Phase II channel plan with the revised band plan could reduce MSS and other licensees' overall costs to relocate BAS. One BAS equipment manufacturer has stated that retrofitting certain existing equipment to operate in the current Phase II channel plan would require the replacement of synthesizers, which would "represent a major cost factor."¹⁵⁸ By contrast, the SBE plan's uniform channel sizes would permit the continued use of existing synthesizers.¹⁵⁹ Because we are now initiating Phase II relocation and because equipment has been developed that is capable of operating in the narrow channel widths associated with Phase II, we do not believe that adoption of the modified channel plan will cause hardship for BAS licensees and instead conclude that it offers numerous benefits. Accordingly, we are revising our Phase II channel plan to specify seven 12 megahertz-wide channels and two 500 kilohertz-wide DRL bands. This channel plan is illustrated in Table 1, above.

57. SBE also requests that split channel operation be explicitly permitted during Phase II of the relocation, and that broadcasters in individual markets have the option to elect to retain five 17 MHz-wide BAS channels indefinitely under Phase II of the relocation, as opposed to the seven narrowband channels they are slated to use under the Phase II channel plan.¹⁶⁰ In more recent filings, SBE has backed away from the second of these proposals. In a recent *ex parte* filing, it concluded that the negative factors – including difficulties in frequency coordination, likelihood that wideband equipment would no longer be supported by manufacturers, and possible diminution in BAS relocation bargaining power – were more

¹⁵⁵ SBE states that, for compatibility purposes, a DRL channel could also be used to provide ATPC for TVPU transmitters. This would be accomplished through the addition of a separate modularized receiver attached to the RS-232 data input port that most modern-day 2-GHz coded orthogonal frequency division modulation ("COFDM") radios have. Since under this proposal there would be 40 DRL channels – even in a top BAS market with channel splits – providing fourteen ENG channels instead of just seven, SBE avers that there would be a sufficient number of DRL channels to accommodate an enhanced, ATPC mode of operation for all TVPU stations wishing to do so. SBE believes that a "polite protocol," where a DRL transmitter steps through each of the 20 possible DRL channels in the pertinent lower or upper DRL band (as appropriate for the TVPU channel to which it is to be associated), and starts transmitting on the first available channel, may be practical. SBE *ex parte* filing in ET Docket No. 95-18 and comments in WT Docket No. 00-258 (filed April 14, 2003) at 6.

¹⁵⁶ Response of ICO to Petitions for Reconsideration and for Partial Reconsideration to the *MSS Second Report and Order* at 5.

¹⁵⁷ For example, Nucomm has designed its newest digital/analog equipment to be field re-programmable to new channel plans. Nucomm *ex parte* filing in ET Docket No. 00-258 (filed April 3, 2003) at 10.

¹⁵⁸ *Id.* at 6.

¹⁵⁹ *Id.*

¹⁶⁰ SBE Petition for Partial Reconsideration of the *MSS Second Report and Order* at 5-6.

important than the positive factors – including continued analog operation on channels 3-7 likely being sufficient to meet some markets’ needs and the ability to keep existing equipment as backup.¹⁶¹

58. We will continue to permit split channel operation by BAS licensees operating on the Phase II channel plan. Although we did not prohibit such operation, and did not intend to suggest such a prohibition, we find it beneficial to clarify this issue. We also believe that BAS licensees should have the ability to continue to operate on channels 3-7 under the “old” channel plan, if they so elect. As SBE notes, there are many reasons why licensees would choose to adopt the new channel plan. However, we will not prohibit BAS licensees from continuing to use the existing channel plan, so long as they restrict their use to the 2025-2110 MHz band when they are no longer permitted to use the 1990-2025 MHz band segment. Because the continued use of the existing channel plan could disrupt BAS licensees that have relocated to the Phase II channel plan and lead to the difficulties in coordination that SBE describes, we will permit continued use of the “old” channel plan only if all BAS licensees in a market will agree to such operation.¹⁶² Moreover, BAS licensees in such markets must operate on a secondary basis to other BAS licensees using the Phase II channel plan and must be prepared for the potential disruption associated with secondary operation, such as the interference likely to be caused by a BAS licensee operating on the Phase II channels that enters the market to cover a sporting event or breaking news story.

59. *Interference Issues.* Because the BAS relocation is segmented by market, BAS licensees in one market could be operating on a different channel plan than BAS licensees in adjacent markets for part of the relocation period. Several parties have asked for clarification of the procedures by which BAS operations will be protected from harmful interference during and after the transition. SBE describes situations in which large market BAS facilities cause interference in adjacent smaller markets even while operating within the bounds of the larger market, and predicts that BAS licensees operating in the smaller market may need to reconfigure their systems in order to eliminate or avoid interference.¹⁶³ To the extent that such interference is similar to interference that small market stations have previously received from their large market neighbors, we expect the parties to use the same coordination procedures that they have previously employed to resolve these issues. Moreover, the Commission previously considered comments by SBE and NAB/MSTV regarding the complexities associated with the operation of BAS equipment on different channels in different markets, and found a simultaneous cut-over to be impractical.¹⁶⁴ Some of the procedures described in the *MSS Second Report and Order* for the accommodation of secondary out-of-market licensees operating on a different channel plan – such as the use of BAS channels 8 and 9, as well as the use of satellite newsgathering equipment – may be an effective means to eliminate interference between adjacent-market BAS facilities. While these mitigation options may not be available in all cases, we find the cooperative procedures of BAS entities will minimize any negative effects. Were we to require reimbursement for the secondary effects of the relocation of larger market BAS stations, either by the new licensee or by the large market BAS station

¹⁶¹ SBE *ex parte* filing in ET Docket No. 95-18 (filed April 3, 2003) at 3-4.

¹⁶² In the *MSS Second Report and Order*, we permitted BAS licensees the choice of surrendering BAS channel 1 during Phase I or relocating to the 14.5 MHz- and 15 MHz-wide Phase I channels. To facilitate an orderly coordination process and to prevent interference, we required all BAS licensees within the same Nielsen DMA to coordinate and chose one of these channel plans. *MSS Second Report and Order*, 15 FCC Rcd at 12330, para. 45. See also Appendix B (modifying 47 C.F.R. § 74.690(e)(2) and 47 C.F.R. § 78.40 (f)(2)).

¹⁶³ SBE Petition for Partial Reconsideration of the *MSS Second Report and Order* at 1-5 and 8; SBE Comments to the *AWS Further Notice* at 3-4.

¹⁶⁴ See *MSS Second Report and Order*, 15 FCC Rcd at 12324 & 12327, paras. 23 (discussing these comments) and 34 (rejecting a simultaneous cut-over).

that causes interference, we would make the relocation process further complex and disrupt the careful balance we have established between allowing incumbent users to continue to operate within the BAS channel block and providing new entrants a realistic opportunity to enter the band. Thus, we decline to adopt additional reimbursement procedures to account for potential BAS-to-BAS interference during the transition.

60. *Additional Issues Raised by Petitioners.* In the discussion on FS relocation issues, *infra*, we discuss the issue of relocation rights for microwave stations that have been transferred or assigned. NAB/MSTV raises similar concerns with respect to BAS transfers and assignments, but without the extensive analysis provided by those petitioners that asked for reconsideration in the FS context. Although we discuss this issue in depth in that section of the Memorandum Opinion and Order, we note for instant purposes that our conclusion there is applicable to all services that are subject to relocation in the 1990-2025 MHz and 2165-2200 MHz bands. Thus, we clarify that an assignment or transfer of control will not disqualify an incumbent in the 2 GHz BAS band from relocation eligibility so long as the facility is not rendered more expensive to relocate as a result.

61. Our decision to immediately initiate Phase II of the relocation process renders moot the request by NAB/MSTV to modify our Phase I relocation procedures to require the relocation of all BAS spectrum to the Phase I channel plan within five years of the first MSS licensee beginning service.¹⁶⁵ Because we are initiating the Phase II relocation procedures by way of this Report and Order, it is also not necessary to provide the public notice announcing the beginning of each negotiation period, as NAB suggests.¹⁶⁶ The initiation of service by the first new licensee in the 1990-2025 MHz band – the trigger for the one-year mandatory negotiation period for all other markets – will be sufficiently well known so as to not require a special public notice by the Commission. Moreover, because such new MSS licensees ultimately are required to relocate BAS stations in all markets, subject to equitable reimbursement when new licensees enter the 1990-2000 MHz and 2020-2025 MHz bands, it will be incumbent on new licensees to contact and begin negotiations with the BAS licensees. We also dispose of the petition filed by Celsat, which asked us specify that only those MSS licensees that cannot share operations with BAS incumbents are prohibited from using the 2023-2025 MHz band during the transition.¹⁶⁷ Because the provisions relating to use of this 2 megahertz segment were intended to provide for robust use of BAS channel 2 during the Phase I channelization, and because our decision will not invoke the Phase I channel plan, this restriction is no longer necessary. Accordingly, we remove the restriction in its entirety.

4. Summary of BAS Relocation

62. Under the modified BAS relocation plan, we retain the distinction of BAS licensees by market size and require the relocation of these licensees within the time period specified for each market. However, we are immediately beginning Phase II of the relocation plan, which will result in the relocation of BAS licensees to the “final” 2025-2110 MHz band plan in a single step. Our relocation procedures require that the first MSS entrant that cannot share spectrum with BAS incumbents will be required to retune, refilter, or replace BAS equipment so that it operates on the revised BAS band plan (consisting of seven 12 MHz-wide channels and two 500-kHz DRL channels) pursuant to the schedule described below.

¹⁶⁵ NAB/MSTV Petition for Reconsideration of the *MSS Second Report and Order* at 5. See also ICO Reply to Petitions for Reconsideration and Partial Reconsideration of the *MSS Second Report and Order* at 2 (opposing the NAB/MSTV petition).

¹⁶⁶ NAB/MSTV Petition for Reconsideration of the *MSS Second Report and Order* at 11. As discussed above, we are starting the mandatory negotiation period by action of this decision.

¹⁶⁷ Celsat Petition for Reconsideration of the *MSS Second Report and Order* at 3.

63. MSS licensees and BAS incumbents in markets 1-30 and all BAS fixed stations, regardless of market size, will begin a mandatory negotiation period that lasts for one year from the date of publication of this Report and Order in the *Federal Register*. After that period, MSS licensees may begin the involuntary relocation of these BAS incumbents. Once these BAS licensees have been relocated, MSS licensees that cannot share spectrum with BAS incumbents may begin operations in the 2000-2020 MHz band. Once this first MSS licensee begins operations, all BAS licensees in markets 31-210 must immediately cease operations on channels 1 and 2 (1990-2025 MHz). As of that date, BAS operations will no longer be permitted in the 1990-2025 MHz band. Also on that date, a one-year mandatory negotiation period will begin between MSS licensees and BAS incumbents in markets 31-210. Although MSS licensees may involuntarily relocate BAS incumbents at any time after the expiration of the one-year mandatory negotiation period, BAS incumbents in markets 31-100 must be relocated within three years of the date the first MSS licensee begins operations, and BAS incumbents in markets 101-210 must be relocated within five years of this date.

64. We also revise the sunset date. Ten years after publication of this Report and Order in the *Federal Register*, a new licensee's obligation to relocate an incumbent BAS operator in the 1990-2025 MHz band will end. At that time, BAS operations in the band (if any remain) will operate on a secondary basis. In all other regards, we retain the existing relocation procedures first established in the *MSS Second Report and Order*. For example, we decline to require the reimbursement of relocation expenses for BAS facilities for which initial applications were filed after adoption of the *MSS Second Report and Order*.

B. FS issues

1. Background

65. *FS use and channel pairing.* Prior to its recent allocations to MSS and AWS, the 2165-2200 MHz band was allocated to the Fixed and Mobile Services. Under that prior allocation, the 2165-2200 MHz band is currently used by commercial and private FS microwave licensees. These licensees provide telephone communications, communications for industry, and public safety communications.¹⁶⁸ Compared with BAS, FS microwave is far less integrated with respect to cooperation among licensees, consisting essentially of a large number of individual links with coordination required only upon first activation of any link to ensure that the new link is sufficiently removed from existing links in frequency, geography, and orientation to avoid harmful interference.¹⁶⁹ The FS operations in this band are typically configured to provide two-way microwave communications between paired links. In this case, the FS microwave links in the 2165-2200 MHz band are paired with links in the 2115-2150 MHz band. Consequently, if one link is relocated to another frequency band, it is usually necessary due to technical re-tuning considerations to relocate both links of the two-way FS microwave system.¹⁷⁰ We note that the paired 2115 – 2150 MHz band is part of the larger 2110 – 2150 MHz band that we recently reallocated for AWS.¹⁷¹

66. *Relocation Plan.* MSS operations in the 2165-2200 MHz band were to be used for satellite service downlinks. There is the potential for interference to occur from MSS satellite downlinks into FS receivers and from FS transmitters into MSS handsets.¹⁷² Consequently, in the *MSS Second Report and*

¹⁶⁸ *MSS Second Report and Order*, 15 FCC Rcd at 12345, para. 143.

¹⁶⁹ *Id.*, 15 FCC Rcd at 12329, para. 42.

¹⁷⁰ *Id.*, 15 FCC Rcd at 12345, para. 95.

¹⁷¹ *AWS Second Report and Order*, 17 FCC Rcd 23193.

¹⁷² *ATC Notice*, 16 FCC Rcd at 15561, para. 75, n. 95.

Order, the Commission adopted a plan for the relocation of FS incumbents by new MSS licensees in the 2165-2200 MHz band. The relocation plan provides for a single mandatory negotiation period that commences when the first MSS licensee informs the first FS licensee in writing of its desire to negotiate.¹⁷³ The mandatory negotiation period lasts for two years for non-public safety FS incumbents, and three years for public safety FS.¹⁷⁴ The Commission decided that new MSS licensees would not be required to relocate incumbent FS microwave licensees until after both an interference analysis and coordination process are completed.¹⁷⁵ Consistent with the policies adopted in our *Microwave Cost-Sharing Proceeding*,¹⁷⁶ the Commission established a sunset date – ten years after the mandatory negotiations begin – for the MSS obligation to pay relocation costs for FS incumbents.¹⁷⁷

67. *Subsequent Developments.* We have already discussed above, in connection with the BAS/MSS relocation, the two major rulemaking proceedings in ET Docket No. 00-258 and IB Docket No. 01-185 in which the Commission proposed and sought comment on alternative uses for portions of the 2 GHz band. Among other matters, those rulemakings addressed alternative uses of the 2165-2200 MHz band that had been allocated to MSS in the *MSS Second Report and Order*. In the *AWS Third Report and Order*, the Commission ultimately decided to reallocate the 2165-2180 MHz portion of the 2165-2200 MHz band to AWS. In the *ATC Report and Order*, the Commission permitted authorized 2 GHz MSS systems to integrate ATCs into their MSS networks. Furthermore, in both the *AWS Further Notice* and the *ATC Notice*, the Commission asked for comment on the effect that any spectrum reallocation would have on the relocation of FS incumbents by MSS in the band.¹⁷⁸ As with the BAS relocation issues raised in those rule makings, the Commission deferred consideration of the FS relocation issues raised therein to future proceedings such as this. We limit our discussion in this section to the petitions for reconsideration of the *MSS Second Report and Order* and the comments filed in response to the *AWS Further Notice* and the *ATC Notice* that address MSS/FS relocation issues – now construed as being limited to the 2180-2200 MHz band. As indicated above, the FS links in the 2180-2200 MHz band are paired with links in the 2130-2150 MHz band. We intend to address the relocation of FS operations in the 2165-2200 MHz band in the context of other proceedings, including ET Docket No. 00-258.

2. Report and Order

68. *ATC Interference to FS.* Under the relocation plan adopted in the *MSS Second Report and Order*, MSS licensees are required to relocate those FS licensees that would receive harmful interference from MSS, but are not required to relocate any FS licensees with which MSS could successfully share the spectrum.¹⁷⁹ To determine when interference between the two services would occur, the Commission decided to rely upon TIA Bulletin TSB-86, which specifies a methodology and criteria for computing

¹⁷³ *MSS Second Report and Order*, 15 FCC Rcd at 12343, paras. 86-87; 47 C.F.R. §101.73(d).

¹⁷⁴ *MSS Second Report and Order*, 15 FCC Rcd at 12343, paras. 86-87; 47 C.F.R. §101.69(d)(1) and (d)(2).

¹⁷⁵ *Id.*, 15 FCC Rcd at 12340, para. 78.

¹⁷⁶ *Amendment to the Commission's Rules Regarding a Plan for Sharing the Costs of Microwave Relocation (Microwave Cost Sharing)*, WT Docket No. 95-17, *First Report and Order and Further Notice of Proposed Rulemaking*, 11 FCC Rcd 8825 (1996); *Second Report and Order*, 12 FCC Rcd 2705 (1997).

¹⁷⁷ *MSS Second Report and Order* 15 FCC Rcd at 12341, para. 80; 47 C.F.R. §101.79(a).

¹⁷⁸ *AWS Further Notice*, 16 FCC Rcd at 16058, para. 34; *ATC Notice*, 16 FCC Rcd at 15561-62, paras. 75-76.

¹⁷⁹ *MSS Second Report and Order*, 15 FCC Rcd at 12340-41, paras. 76-78.

interference between satellite and fixed services.¹⁸⁰ In the *ATC Notice*, the Commission observed that the interference criteria and mechanisms would be different between incumbent FS and the terrestrial (ATC) facilities of MSS than they are for interference between FS and MSS.¹⁸¹ The Commission further observed that it had adopted TIA Bulletin TSB 10-F previously as the criteria for determining PCS to FS interference.¹⁸² Bulletin TSB 10-F describes interference criteria for microwave systems in public fixed radio services and private operational fixed microwave service bands. Noting that MSS terrestrial operations would appear to be technically similar to PCS which operates in nearby bands, the Commission proposed to adopt the same criteria to determine where sharing would be possible between FS and MSS terrestrial operations.¹⁸³

69. In response to the *ATC Notice*, the American Petroleum Institute (API) comments that it agrees with our proposal that TIA Bulletin TSB 10-F should be adopted for purposes of triggering relocation obligations by new terrestrial MSS operations in the 2 GHz band.¹⁸⁴ API also agrees that it is not appropriate to use TIA TSB-86 for this purpose because the criteria in that bulletin are designed for determining interference from satellite operations.¹⁸⁵ No commenting parties opposed use of TSB-10F.

70. We affirm 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.¹⁸⁶ Due to the technical similarity of MSS terrestrial operations to PCS which operates in nearby bands and for which TSB 10-F is well-suited, we conclude that the criteria specified in TSB 10-F should be equally suitable to determine where sharing would be possible between FS and MSS terrestrial operations in the 2180 – 2200 MHz band. Our conclusion is consistent with the *MSS Second Report and Order* wherein the Commission determined that, in the case of terrestrial new service/FS interference, TIA Bulletin 10-F would be the relevant standard.¹⁸⁷ We also affirm that, similar to our application of the TSB-86 standard for MSS interference, the MSS licensee of any new terrestrial ATC operation must relocate incumbent FS licensees upon determination, based upon TSB 10-F, that interference would be caused to the incumbent operations. Of course, TIA Bulletin TSB-86 remains the applicable standard to be used with regard to the satellite component operations by MSS licensees.

71. Furthermore, consistent with the approach we adopted for MSS satellite operations in the *MSS Second Report and Order*, where an initial MSS licensee of terrestrial ATC operations relocates both links of a paired FS microwave link, any subsequent licensee(s) that benefit from the relocation will be required to participate in the reimbursement of the initial licensee. (See former Section 101.99 re-

¹⁸⁰ TSB86 was developed by a Joint Working Group comprised of the Telecommunications Industry Association (TIA) Engineering Subcommittees on Spectrum and Orbit Utilization, the TIA Engineering Subcommittee on Interference Criteria for Microwave Systems, and the National Spectrum Managers Association. *MSS Second Report and Order*, 15 FCC Rcd at 12340, para. 78, n. 131.

¹⁸¹ *ATC Notice*, 16 FCC Rcd at 15562, para. 76.

¹⁸² *Id.* 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, para. 150 (1993); *Memorandum Opinion and Order*, 9 FCC Rcd 4957, 5029, para. 186 (1994).

¹⁸³ *ATC Notice*, 16 FCC Rcd at 15562, para. 76.

¹⁸⁴ Comments of the American Petroleum Institute (API) to the *AWS Further Notice* at 6-7.

¹⁸⁵ *Id.*

¹⁸⁶ Consistent with 47 C.F.R. §101.105 (c), procedures other than TSB-10F that follow generally acceptable good engineering practices are also acceptable.

¹⁸⁷ *MSS Second Report and Order*, 15 FCC Rcd at 12346, para. 97, n.160. See also, 47 C.F.R. §101.79 (a).

numbered herein as Section 101.82, *infra*. Appendix B.) We decline, however, to adopt API's suggestion that we *require* the initial MSS licensee of ATC to relocate both paired FS links and, instead, leave that decision to be resolved in the first instance through the relocation negotiation process. As a practical matter, we again note that when one path of a paired FS link is relocated, it is often necessary due to technical considerations to relocate both path links. Consequently, even without a mandatory requirement, we believe that both links will, in practice, be relocated in most instances. In particular, since the FS transmit/receive electronics, antenna and tower are often highly integrated, it would likely be more expensive and complex to relocate just one link due to the additional retuning and retrofitting – above and beyond that normally involved with paired links – that would be required to ensure seamless operation with the legacy link under the comparable facility requirement. The general result is that there should be a clear financial and technical incentive for MSS/ATC licensees to relocate both paired links as at the same time.

72. On the other hand, there can be individual situations where it is both economically and technically feasible within reason to relocate just one of the paired links. To the extent such a situation occurs, we do not believe that MSS/ATC licensees should be *per se* deprived of this option by regulation. In any event, FS licensees are ensured of comparable facilities under the relocation rules and they have a year under these rules to determine if a satisfactory result has been achieved.¹⁸⁸ Therefore, we continue to believe that leaving the decision of whether to relocate both paired links to the negotiation process is the better and more flexible approach.

73. *Self-relocation to leased facilities or alternative media.* In response to our request for comments in the *AWS Further Notice*, Blooston asks that we clarify that FS incumbents who voluntarily self-relocate to leased facilities or alternative media are eligible for reimbursement.¹⁸⁹ As an initial matter, we affirm that FS incumbents that are relocated through the negotiation process are eligible for reimbursement for relocation to leased facilities or alternative media. This is consistent with the approach we have previously taken in the *Emerging Technologies* and *Microwave Cost-Sharing* proceedings.¹⁹⁰ We decline, however, to extend reimbursement eligibility or automatic reimbursement credits as requested by Blooston to FS incumbents that voluntarily self-relocate to leased facilities or alternative media. In addition to the reasons discussed below in the MO&O section with regard to Joint Petitioners' and SBC's related requests, we find that a reimbursement scheme for voluntary self-relocation was not envisioned by the MSS/FS relocation plan and would likely require a clearinghouse to administer reimbursement claims. We believe that initiating a plan for reimbursing those who voluntarily relocate is not warranted and that a further rulemaking at this stage to consider such a plan would only serve to delay MSS entry in the 2 GHz band.

74. *Negotiation periods.* In response to the *AWS Further Notice*, API and the Association of Public-Safety Communications Officials-International (APCO) urge that we clarify that each FS incumbent approached by an MSS licensee for relocation negotiations would receive the benefit of a full two year (or three year for Public Safety) negotiation period.¹⁹¹ We decline to establish such "rolling"

¹⁸⁸ 47 C.F.R. §101.75 (d)

¹⁸⁹ Initial Comments of Blooston Law Firm (Blooston) to the *AWS Further Notice*.

¹⁹⁰ See *MSS Second Report and Order*, 15 FCC Rcd at 12351, para. 108 regarding alternative media (citing *Emerging Technologies Report and Order and Third Notice*, 7 FCC Rcd 6886, para. 24). See also, 47 C.F.R. § 24.243 (b) that specifies leased facilities as an example of relocation costs that may be included in the cost-sharing formula in PCS relocation proceeding.

¹⁹¹ Comments of APCO to the *AWS Further Notice* 3-4; API comments to the *AWS Further Notice* at 9.

negotiation periods during which each FS incumbent would be allowed a full two or three year mandatory negotiation period that would be triggered when notified by an MSS licensee of its desire to negotiate. Such a scheme would result in a large number of unrelated mandatory negotiation periods that would tend to further delay the overall relocation process in the band. We believe that such discontinuity would be likely to create considerable confusion and lack of finality as compared with a single uniform negotiation period for all FS incumbents.

3. Memorandum Opinion and Order

75. *Ten-year sunset period.* In response to the *MSS Second Report and Order*, Critical Infrastructure Communications Coalition (CICC), Fixed Wireless Communications Coalition (FWCC), *et al.*, (collectively, “*Joint Petitioners*”) seek clarification that the mandatory FS negotiation period commences with the initiation of relocation negotiations between MSS licensees and FS incumbents.¹⁹² They argue that the existing rules do not specify which “emerging technology” services are considered the first licensee for triggering the start of the negotiation period that, in turn, establishes the benchmark for determining the ten-year sunset date.¹⁹³ Joint Petitioners assert that, as a result, MSS licensees could interpret the sunset period to commence with negotiations by, for example, PCS licensees (*i.e.*, the first “emerging technology” service to be licensed by the Commission).¹⁹⁴ They also note this confusion in the rules is compounded by fact that a pertinent rule section refer to a “voluntary” negotiation period when there is none for MSS and FS licensees in the 2165-2200 MHz band.¹⁹⁵

76. Joint Petitioners also request that the Commission issue a public notice indicating the date when the first MSS licensee informs the first FS licensee of its desire to negotiate.¹⁹⁶ They argue that such a public notice would better clarify for all interested parties the time of commencement of the relocation negotiation and sunset periods. In support of this request, Joint Petitioners point out that the *MSS Second Report and Order* makes no provision – other than for the first FS licensee approached by MSS to negotiate – for other FS licensees to be made aware of when the mandatory negotiation period commences. Joint Petitioners urge that a public notice that indicates the date when the first MSS licensee informs the first FS licensee of its desire to negotiate would eliminate any confusion. In addition, Joint Petitioners argue that the similar to the provisions for 800 MHz SMR licensee relocation in Section 90.699 of the Rules, MSS licensees should be required to notify FS incumbents of their intention to relocate such incumbents within 90 days of the release of the public notice that commences the mandatory negotiation period.¹⁹⁷

¹⁹² Critical Infrastructure Communications Coalition (CICC), Fixed Wireless Communications Coalition (FWCC), *et al.*, (collectively, “*Joint Petitioners*”) Joint Petition for Clarification and Reconsideration of the *MSS Second Report and Order* at 6.

¹⁹³ *Id.* at 7, citing 47 C.F.R. § 101.79 (a). In this regard, we note that Section 101.79 (a) discusses the general sunset provisions that also apply to the 1850 – 1990 MHz band and the 2110 – 2150 MHz band. Under the current rules, voluntary negotiation periods do apply in certain bands. For the 2165 – 2200 MHz band, however, Section 101.79 (a) must be read in conjunction with Section 101.69 (d) which further specifies that relocation in this particular band is subject to mandatory negotiations only.

¹⁹⁴ Joint Petitioners Joint Petition for Clarification and Reconsideration of the *MSS Second Report and Order* at 7.

¹⁹⁵ *Id.*

¹⁹⁶ *Id.*

¹⁹⁷ See 47 C.F.R. § 90.699.

77. We agree with petitioners that the potential for confusion could be reduced if all parties know with certainty when the mandatory negotiation period begins. However, rather than issuing a public notice as suggested by petitioners, we conclude that a simpler approach would be to adopt a date certain in the rules for commencement of the mandatory negotiation period. This approach removes the potential for uncertainty in determining precisely which initial contact between an MSS licensee and FS incumbent qualifies as the trigger for mandatory negotiations. Furthermore, this approach obviates placing any new reporting burdens on MSS or FS licensees for notifying the Commission of the start of negotiations. Finally, this approach conforms more closely with the BAS relocation plan that also specifies the starting dates for the mandatory negotiations, involuntary relocation, and sunset of all relocation obligations. We also note that a substantial amount of time has already lapsed since adoption of the FS relocation plan. During this time, all parties have been aware that mandatory negotiations were in the offing and have had ample opportunity to make plans for this eventuality. Furthermore, MSS proponents have argued that the ATC component recently authorized for MSS licensees would be instrumental in accelerating their ability to move forward with the relocation process. Therefore, we believe it would not be in the public interest to delay further the start of the mandatory negotiation period for a further uncertain period of time (i.e., until whenever the first MSS licensee seeks to negotiate relocation of an FS incumbent). Therefore, we are specifying that the date of publication of this Report and Order and Memorandum Opinion and Order in the *Federal Register* will be the starting date of the mandatory negotiation period between MSS licensees and FS incumbents, as well as the starting date of the related ten-year sunset period for relocation of FS licensees by MSS licensees in the 2180-2200 MHz band.¹⁹⁸ Similarly, we believe that the duration of the mandatory negotiation period should be modified - from two years for non-public safety and three years for public safety - to one year and two years, respectively. Given the amount of time that has already passed since adoption of the *MSS Second Report and Order* and the upcoming MSS milestone requirements, we believe that this modification is appropriate to maintain the balance of equities between MSS licensees and FS incumbents.

78. We decline to adopt the Joint Petitioner's request that MSS licensees be required to notify FS incumbents of their intention to relocate incumbents within 90 days of the start of the mandatory negotiation period. Under the relocation plan adopted in *MSS Second Report and Order*, we have placed substantial relocation burdens on MSS licensees with respect to FS – in addition to BAS – incumbents in the 2 GHz band. In order to help balance these substantial burdens, we believe that MSS licensees should be afforded maximum flexibility in choosing the timing of negotiations during the mandatory negotiation period. At the same time, we find that the negotiation starting date that we have adopted herein will provide sufficient notice for all FS incumbents to factor such relocation into their business plans. Therefore, we affirm that MSS licensees may elect to notify FS incumbents of their desire to enter into relocation negotiations at any time during the mandatory negotiation period and will not be required to provide anticipatory notice prior to doing so. Taken together, we believe that these actions balance the public interests in providing the opportunity for early entry of new MSS operations while maintaining the integrity of incumbent FS services in the 2 GHz band.

79. *Assignment or transfer of control.* The Joint Petitioners urge that we clarify that an assignment or transfer of control of an incumbent FS license does not result in a loss of primary status and, hence, relocation eligibility.¹⁹⁹ In support of this request, Joint Petitioners point to Section 101.81 of the rules (on future licensing in the 2160-2200 MHz band) which states all major modifications to

¹⁹⁸ As noted in note 83, *supra*, we will calculate future dates by counting from the date that this Report and Order is published in the *Federal Register*. However, the rules we adopt will take effect 30 days after publication of the Report and Order in the *Federal Register*. See 47 C.F.R. § 1.427 (“Effective date of rules”).

¹⁹⁹ Joint Petitioners Joint Petition for Clarification and Reconsideration of the *MSS Second Report and Order* at 11.

existing fixed microwave systems after April 25, 1996, will be authorized on a secondary basis.²⁰⁰ Furthermore, Section 1.929(a)(2) of the Rules (on wireless telecommunications system applications and proceedings) states that any substantial change in ownership or control is included among the actions that are classified as major.²⁰¹ Reading these two sections together, petitioners state that an assignment or transfer of control could be interpreted to preclude relocation eligibility of the incumbent. Petitioners also correctly point out that, while Section 1.929(a)(3) states that renewals are similarly considered a “major” change, we nevertheless specifically provided in the *MSS Second Report and Order* that an incumbent FS whose license is renewed would remain eligible for relocation. Finally, the Joint Petitioners cite the Commission’s determination in the 18 GHz Relocation Proceeding that an incumbent’s change of ownership or control (along with other specified minor technical modifications) would be permissible while retaining relocation eligibility so long as the modifications would not result in a facility that is more costly to relocate.²⁰²

80. We agree with the Joint Petitioners’ analysis that our policy on assignment or transfer of control of incumbent FS licensees needs to be clarified. Therefore, consistent with our finding in the 18 GHz Relocation Proceeding, we clarify that an assignment or transfer of control will not disqualify an FS incumbent in the 2180-2200 MHz band from relocation eligibility so long as the facility is not rendered, as a result, more expensive to relocate. On the other hand, FS stations newly authorized after the date of publication of the *MSS Second Report and Order* (i.e., September 6, 2000) will not be eligible for relocation. In addition, FS stations making changes that are otherwise classified as major modifications under § 1.929(a) will not be eligible for relocation.

81. *Interference to MSS operations.* Joint Petitioners and Enron urge that MSS licensees be obligated to relocate incumbents prior to the ten-year sunset whenever the MSS licensee would *receive* interference from incumbent FS operations in addition to whenever interference is caused to FS incumbents.²⁰³ Enron further asserts that the current provisions ignore half of the interference picture prior to the sunset and would allow MSS licensees to engage in “cherry picking” where they commence operations in order to minimize initial relocation expenses during their start-up phase.²⁰⁴ Petitioners correctly observe that, prior to the ten-year sunset for FS relocation in the 2 GHz band, we require MSS licensees to relocate FS incumbent licensees after coordination and a determination according to TIA TSB-86 that interference would be *caused* to an FS incumbent.²⁰⁵ Subsequent to the sunset, FS microwave licensees will be required to relocate at their own expense within six months of presentation of a written demand by a MSS licensee that determines it “will receive harmful interference according to TIA TSB-86, or that has received actual harmful interference from the FS licensee.”

²⁰⁰ 47 C.F.R. § 101.81 (“Future licensing in the 1850-1990 MHz, 2110-2150 MHz, and 2160-2200 MHz bands.”).

²⁰¹ 47 C.F.R. § 1.929(a)(2) (“Classification of filings as major or minor.”).

²⁰² Joint Petitioners Joint Petition for Clarification and Reconsideration of the *MSS Second Report and Order* at 15, citing *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*, (18 GHz Relocation Proceeding), 15 FCC Rcd 13430 (2000) at 13466, para. 75.

²⁰³ Joint Petitioners Joint Petition for Clarification and Reconsideration of the *MSS Second Report and Order* at 3; Petition of Enron North America Corp. (Enron) for Partial Reconsideration or Clarification of the *MSS Second Report and Order* at 4.

²⁰⁴ Enron Petition for Partial Reconsideration or Clarification of the *MSS Second Report and Order* at 5, *et seq.*

²⁰⁵ *MSS Second Report and Order*, 15 FCC Rcd at 12340, para. 78.

82. We decline to require MSS licensees to relocate FS incumbents from which they receive - but do not cause - interference prior to the end of the sunset period. As a practical matter, we believe that MSS licensees will act in their own best interests to maximize the marketability of their service when dealing with any interference that might be received from FS incumbents. In that regard, nothing in the *MSS Second Report and Order* or our finding herein prohibits an MSS licensee from making an individual business decision to resolve instances of interference received from an FS incumbent prior to the sunset date through a voluntary arrangement with the FS licensee. Such an arrangement could include terms for relocating the incumbent FS operation. Consequently, rather than making such relocation mandatory, we believe that it is better for each MSS licensee to make its own business case decision whether to relocate FS incumbents from which it may receive interference in light of the quality of service the MSS licensee seeks to provide.

83. Furthermore, as the Commission stated in the *MSS Second Report and Order* with regard to balancing the relocation burdens on each service, MSS licensees in the 2 GHz band will face unusually high costs in gaining early access to spectrum because of the nationwide nature of their service.²⁰⁶ Requiring MSS licensees to relocate only those FS incumbents to which interference is caused prior to the sunset period is but one step the Commission has taken to minimize the relocation expense for MSS licensees and, thereby, provide their early access to the 2 GHz band. Indeed, the Commission found in the *MSS Second Report and Order* that many of the adopted measures will work hardships upon the incumbents in order to minimize relocation costs to MSS licensees. At the same time, requiring MSS licensees to relocate FS incumbents who are *caused* interference by MSS operations prior to the sunset will ensure the integrity and continuity of the services provided to the public by incumbent FS licensees during the ten-year sunset period. Furthermore, the sunset date for FS relocation serves the public interest by providing certainty to the relocation process, prevents MSS licensees from being obliged to pay relocation expenses indefinitely, and provides incumbents with ample time to either negotiate relocation *or plan for relocation themselves*. Therefore, we affirm that MSS licensees are not required to relocate FS incumbents from which they receive, but do not cause, interference prior to the sunset date. After the sunset date, FS incumbents will be required to relocate at their own expense upon demand by a MSS licensee that determines it will receive harmful interference according to TIA TSB-86 (or TSB-10F in the case of ATC operations by MSS licensees), or that has received actual harmful interference from the FS licensee.²⁰⁷ We do not find these provisions to be inconsistent as suggested by petitioners. Instead, we find that they are complementary toward achieving our underlying goal of crafting a relocation process that strikes a fair balance for all parties.

84. *Voluntary self-relocation*. Joint petitioners and SBC request that we clarify that incumbents in the 2110-2150 MHz or 2165-2200 MHz bands that voluntarily self-relocate may participate in 2 GHz band relocation cost sharing in similar fashion to the relocation plan we adopted for Personal Communications Services (PCS) in a separate proceeding.²⁰⁸ ICO responds that such an approach is inappropriate in this proceeding because, unlike the situation in the PCS cost-sharing proceeding cited by

²⁰⁶ *Id.*, 15 FCC Rcd at 12352, para. 111.

²⁰⁷ *MSS Second Report and Order*, 15 FCC Rcd at 12341, para. 80.

²⁰⁸ Joint Petitioners Joint Petition for Clarification and Reconsideration of the *MSS Second Report and Order* at 9. SBC Petition Partial Reconsideration of the *MSS Second Report and Order* at 2.

Joint Petitioners, MSS may not identify their selected 2 GHz frequencies until they have placed their first satellite in its intended orbit.²⁰⁹

85. We decline to extend cost-sharing eligibility to self-relocating FS incumbents. Under the plan adopted in the *MSS Second Report and Order*, relocation of incumbent FS microwave links need occur only if there is harmful interference.²¹⁰ We find that allowing self-relocating FS incumbents to share in relocation costs would circumvent our intention of limiting relocation to those FS incumbents receiving interference which cannot be resolved through the coordination process and a TSB-86 (or TSB 10-F for terrestrial ATC to FS) interference determination. Furthermore, we find that requiring relocation under those circumstances would inordinately increase the relocation cost burden on MSS licensees.

PROCEDURAL MATTERS

A. Final Regulatory Flexibility Analysis

86. The Final Regulatory Flexibility Analysis is attached in Appendix C. The action contained herein also has been analyzed with respect to the Paperwork Reduction Act of 1995 (PRA) and found to impose no new or modified reporting and/or recordkeeping requirements or burdens on the public.

87. The Commission will send a copy of the Third Report and Order and Third Memorandum Opinion and Order, including a copy of this Final Regulatory Flexibility Certification, in a report to Congress pursuant to the Congressional Review Act.²¹¹ In addition, the Third Report and Order and Third Memorandum Opinion and Order and this final certification will be sent to the Chief Counsel for Advocacy of the SBA, and will be published in the *Federal Register*.²¹²

B. Further Information

88. For further information regarding this Third Report and Order and Third Memorandum Opinion and Order, contact Jamison S. Prime, Office of Engineering and Technology, (202) 418-7474, or Gary R. Thayer, Office of Engineering and Technology, (202) 418-2290.

ORDERING CLAUSES

89. Accordingly, IT IS ORDERED that, pursuant to sections 4(i), 7, 302, 303(c), 303(e), 303(f), 303(g) and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. sections 154(i), 157, 302, 303(c), 303(e), 303(f), 303(g) and 303(r), this Third Report and Order and Third Memorandum Opinion and Order IS ADOPTED and that Parts 2, 74, 78, and 101 of the Commission's Rules ARE AMENDED as specified in Appendix B, effective 30 days after publication in the Federal Register.

²⁰⁹ Response of ICO to Petitions for Reconsideration and for Partial Reconsideration of the *MSS Second Report and Order* at 6.

²¹⁰ *MSS Second Report and Order*, 15 FCC Rcd at 12339, para. 75.

²¹¹ See 5 U.S.C. § 801(a)(1)(A).

²¹² See 5 U.S.C. § 605(b).

90. IT IS FURTHER ORDERED that pursuant to sections 4(i), 303(f), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(f), and 303(r), and Section 553(d) of the Administrative Procedure Act, 5 U.S.C. § 553(d), the expiration date of the initial two-year mandatory BAS negotiation period for Phase I set forth in the *Second Report and Order* in ET Docket No. 95-18 IS HEREBY SUSPENDED until the effective date of the rules adopted herein, effective immediately upon release of this order, consistent with the terms discussed above.

91. IT IS FURTHER ORDERED that pursuant to sections 4(i), 302, 303(e) 303(f), 303(g), 303(r) and 405 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 302, 303(e), 303(f), 303(g) and 405, that the petitions for reconsideration in ET Docket No. 95-18 filed by Joint Petitioners (CICC, FWCC, *et al*), Broadcast Filers (Cosmos Broadcasting Corp., Cox Broadcasting, *et al*), Society of Broadcast Engineers, Inc., and National Association of Broadcasters and the Association for Maximum Service Television, Inc., ARE GRANTED to the extent discussed herein.

92. IT IS FURTHER ORDERED that the petitions for reconsideration in ET Docket No. 95-18 filed by Joint Petitioners (CICC, FWCC, *et al*) and Celsat America, Inc. ARE DISMISSED AS MOOT, to the extent discussed herein.

93. IT IS FURTHER ORDERED that the petitions for reconsideration in ET Docket No. 95-18 filed by Joint Petitioners (CICC, FWCC, *et al*), Enron North America Corp., SBC Communications, Inc., Broadcast Filers (Cosmos Broadcasting Corp., Cox Broadcasting, *et al*), Society of Broadcast Engineers, Inc., and National Association of Broadcasters and the Association for Maximum Service Television, Inc., ARE DENIED in all other respects.

94. IT IS FURTHER ORDERED that the Final Regulatory Flexibility Analysis, as required by Section 604 of the Regulatory Flexibility Act and as set forth in Appendix C, IS ADOPTED.

95. IT IS FURTHER ORDERED that the Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Third Report and Order and Third Memorandum Opinion and Order, including the Final Regulatory Flexibility Certification, to the Chief Counsel for Advocacy of the Small Business Administration.

96. IT IS FURTHER ORDERED that the proceeding in ET Docket No. 95-18 IS TERMINATED.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

**APPENDIX A: Parties Filing Petitions for Reconsideration, Oppositions and Replies
to the MSS Second Report and Order in ET Docket No. 95-18**

Petitions for Reconsideration or Clarification:

1. Fixed Wireless Communications Coalition, Critical Infrastructure Communications Coalition, *et al.* (Joint Petitioners)
2. SBC Communications Inc
3. Enron North America Corp. (Enron)
4. Society of Broadcast Engineers, Inc. (SBE)
5. National Association of Broadcasters and the Association for Maximum Service Television, Inc. (NAB/MSTV)
6. Cosmos Broadcasting Corporation, Cox Broadcasting, Inc., and Media General, Inc. (Broadcast Filers)
7. Celsat America, Inc. (Celsat)

Oppositions/Responses/Comments Filed During Opposition Period:

1. ICO Services Limited (ICO)
2. NAB/MSTV

Reply Comments:

1. Joint Petitioners
2. NAB/MSTV
3. Broadcast Filers
4. Arkansas Broadcasters Association

APPENDIX B: Final Rules

For the reasons discussed above, the Federal Communications Commission amends 47 CFR parts 2, 74, 78 and 101 as follows:

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

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

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

2. Section 2.106, the Table of Frequency Allocations, is amended by revising footnotes NG156, NG168, NG177 and NG178 in the list of non-Federal Government (NG) Footnotes to read as follows:

§ 2.106 Table of Frequency Allocations.

* * * * *

NON-FEDERAL GOVERNMENT (NG) FOOTNOTES

* * * * *

NG156 The band 2000-2020 MHz is also allocated to the fixed and mobile services on a primary basis for facilities where the receipt date of the initial application was prior to June 27, 2000, and on a secondary basis for all other initial applications. Not later than **[date of publication in the *Federal Register* + 10 years]**, the band 2000-2020 MHz is allocated to the fixed and mobile services on a secondary basis.

* * * * *

NG168 The band 2180-2200 MHz is also allocated to the fixed and mobile services on a primary basis for facilities where the receipt date of the initial application was prior to January 16, 1992, and on a secondary basis for all other initial applications. Not later than **[date of publication in the *Federal Register* + 10 years]**, the band 2180-2200 MHz is allocated to the fixed and mobile services on a secondary basis.

* * * * *

NG177 In the bands 1990-2000 MHz and 2020-2025 MHz, where the receipt date of the initial application for facilities in the fixed and mobile services was prior to June 27, 2000, said facilities shall operate on a primary basis and all later-applied-for facilities shall operate on a secondary basis to any service licensed pursuant to the allocation adopted in FCC 03-16, 68 Fed Reg 11986, March 13, 2003 (“Advanced Wireless Services”). Not later than **[date of publication in the *Federal Register* + 10 years]**, all such facilities in the bands 1990-2000 MHz and 2020-2025 MHz shall operate on a secondary basis to Advanced Wireless Services.

NG178 In the band 2165-2180 MHz, where the receipt date of the initial application for facilities in the fixed and mobile services was prior to January 16, 1992, said facilities shall operate on a primary basis and all later-applied-for facilities shall operate on a secondary basis to any service licensed pursuant to the allocation adopted in FCC 03-16, 68 Fed Reg 11986, March 13, 2003 (“Advanced Wireless Services”). Not later than **[date of publication in the *Federal Register* + 10 years]**, all such facilities in the band 2165-2180 MHz shall operate on a secondary basis to Advanced Wireless Services.

* * * * *

PART 74 – EXPERIMENTAL RADIO, AUXILIARY, SPECIAL BROADCASTING AND OTHER PROGRAM DISTRIBUTIONAL SERVICES

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

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

2. Section 74.602 is amended to revise section (a)(3) and remove and reserve section (a)(4) to read as follows:

§ 74.602 Frequency assignments.

(a) * * *

(3)(i) After **[30 days after publication in the Federal Register]**, stations may adhere to the channel plan specified in paragraph (a) of this section, or the following channel plan in Band A:

Channel A1r---2025.5-2037.5 MHz
 Channel A2r---2037.5-2049.5 MHz
 Channel A3r---2049.5-2061.5 MHz
 Channel A4r---2061.5-2073.5 MHz
 Channel A5r---2073.5-2085.5 MHz
 Channel A6r---2085.5-2097.5 MHz
 Channel A7r---2097.5-2109.5 MHz

(ii) Stations adhering to the channel plan specified in paragraph (a)(3)(i) of this section may also use the following 40 data return link (DRL) channels to facilitate their operations in the 2025.5-2109.5 MHz band:

Lower band DRL channels

2025.000-2025.025 MHz
 2025.025-2025.050 MHz
 2025.050-2025.075 MHz
 2025.075-2025.100 MHz
 2025.100-2025.125 MHz

2025.125-2025.150 MHz
 2025.150-2025.175 MHz
 2025.175-2025.200 MHz
 2025.200-2025.225 MHz
 2025.225-2025.250 MHz

2025.250-2025.275 MHz
 2025.275-2025.300 MHz
 2025.300-2025.325 MHz
 2025.325-2025.350 MHz
 2025.350-2025.375 MHz

2025.375-2025.400 MHz
 2025.400-2025.425 MHz
 2025.425-2025.450 MHz
 2025.450-2025.475 MHz
 2025.475-2025.500 MHz

Upper band DRL channels

2109.500-2109.525 MHz
 2109.525-2109.550 MHz
 2109.550-2109.575 MHz
 2109.575-2109.600 MHz
 2109.600-2109.625 MHz

2109.625-2109.650 MHz
 2109.650-2109.675 MHz
 2109.675-2109.700 MHz
 2109.700-2109.725 MHz
 2109.725-2109.750 MHz

2109.750-2109.775 MHz
 2109.775-2109.800 MHz
 2109.800-2109.825 MHz
 2109.825-2109.850 MHz
 2109.850-2109.875 MHz

2109.875-2109.900 MHz
 2109.900-2109.925 MHz
 2109.925-2109.950 MHz
 2109.950-2109.975 MHz
 2109.975-2110.000 MHz

(iii) Broadcast Auxiliary Service, Cable Television Remote Pickup Service, and Local Television Transmission Service licensees in Nielsen Designated Market Areas (DMAs) 1-30, as such DMAs existed on September 6, 2000, will be required to use the Band A channel plan in paragraph (a)(3)(i) of this section after completion of relocation by an Emerging Technologies licensee in accordance with § 74.690 of this chapter. Licensees declining relocation and licensees in Nielsen DMAs 31-210, as such DMAs existed on September 6, 2000, will be required to discontinue use of the 1990-2025 MHz on the date that the first Mobile-Satellite Service licensee begins operations in the 2000-2020 MHz band

(4) [removed and reserved]

* * * * *

3. Section 74.690 is amended to revise sections (a),(b), and (e) to read as follows:

§ 74.690 Transition of the 1990-2025 MHz band from the Broadcast Auxiliary Service to emerging technologies.

(a) Licensees proposing to implement Mobile-Satellite Services using emerging technologies (MSS Licensees) may negotiate with Broadcast Auxiliary Service licensees operating on a primary basis and fixed service licensees operating on a primary basis in the 1990-2025 MHz band (Existing Licensees) for the purpose of agreeing to terms under which the Existing Licensees would relocate their operations to the 2025-2110 MHz band, to other authorized bands, or to other media; or, alternatively, would discontinue the use of the 1990-2025 MHz band when MSS operations commence in the 2000-2020 MHz band..

(b) An Existing Licensee in the 1990-2025 MHz band allocated for licensed emerging technology services will maintain primary status in the band until the Existing Licensee's operations are relocated by a MSS Licensee or are discontinued under the terms of paragraph (a), above

* * *

(e) Subject to the terms of this paragraph (e), the relocation of Existing Licensees will be carried out in the following manner:

(1) Existing Licensees and MSS licensees may negotiate individually or collectively for relocation of Existing Licensees to one of the channel plans specified in § 74.602(a)(3) of this chapter. Parties may not decline to negotiate, though Existing Licensees may decline to be relocated.

(i) MSS licensees must relocate all Existing Licensees in Nielsen Designated Market Areas (DMAs) 1-30, as such DMAs existed on September 6, 2000, and all fixed stations operating in the 1990-2025 MHz band on a primary basis, prior to beginning operations, except those Existing Licensees that decline relocation. Such relocation negotiations shall be conducted as "mandatory negotiations," as that term is used in § 101.73 of this Chapter. If these parties are unable to reach a negotiated agreement, MSS Licensees may involuntarily relocate such Existing Licensees and fixed stations after **[date of publication in the Federal Register + one year]**.

(ii) On the date that the first MSS licensee begins operations in the 2000-2020 MHz band, Broadcast Auxiliary Service licensees and fixed service licensees that are not operating on the new channel plan specified in § 74.602(a)(3) of this chapter must discontinue use of all operations in the 1990-2025 MHz band.

(iii) On the date that the first MSS licensee begins operations in the 2000-2020 MHz band, a one-year mandatory negotiation period begins between MSS licensees and Existing Licensees in Nielsen DMAs 31-210, as such DMAs existed on September 6, 2000. After the end of the mandatory negotiation period, MSS licensees may involuntarily relocate any Existing Licensees with which they have been unable to reach a negotiated agreement. As described elsewhere in this paragraph (e), MSS Licensees are obligated to relocate these Existing Licensees within the specified three- and five-year time periods.

(2) Before negotiating with MSS licensees, Existing Licensees in Nielsen Designated Market Areas where there is a BAS frequency coordinator must coordinate and select a band plan for the market area. If an Existing Licensee wishes to operate in the 2025-2110 MHz band using the channels A03-A07 as specified in the Table in Section 74.602(a) of this Part, then all licensees within that Existing Licensee's market must agree to such operation and all must operate on a secondary basis to any licensee operating on the channel plan specified in Section 74.602(a)(3) of this Part. All negotiations must produce solutions that adhere to the market area's band plan.

(3) [removed and reserved]

(4) [removed and reserved]

(5) As of the date the first MSS licensee begins operations in the 1990-2025 MHz band, MSS Licensees must relocate Existing Licensees in DMAs 31-100, as they existed as of September 6, 2000, within three years, and in the remaining DMAs, as they existed as of September 6, 2000, within five years.

(6) On **[date of publication in the Federal Register + ten years]**, all Existing Licensees will become secondary in the 1990-2025 MHz band. Upon written demand by any MSS licensee, Existing Licensees must cease operations in the 1990-2025 MHz band within six months.

PART 78 – CABLE TELEVISION RELAY SERVICE

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

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

2. Section 78.18 is amended to revise section (a)(6) to read as follows:

§ 78.18 Frequency assignments.

(a) * * *

(6) * * *

(i) * * *

(ii) After a licensee has been relocated in accordance with the provisions of § 78.40, operations will be in the band 2025-2110 MHz. The following channel plan will apply, subject to the provisions of § 74.604 of this chapter:

Frequency Band (MHz)

2025.5-2037.5

2037.5-2049.5

2049.5-2061.5

2061.5-2073.5

2073.5-2085.5

2085.5-2097.5

2097.5-2109.5

* * * * *

3. Section 78.40 is amended revise section (f) to read as follows:

* * * * *

(f) Subject to the terms of this paragraph (f), the relocation of Existing Licensees will be carried out in the following manner:

(1) Existing Licensees and MSS licensees may negotiate individually or collectively for relocation of Existing Licensees to one of the channel plans specified in §74.602(a)(3) of this chapter. Parties may not decline to negotiate, though Existing Licensees may decline to be relocated.

(i) MSS licensees must relocate all Existing Licensees in Nielsen Designated Market Areas (DMAs) 1-30, as such DMAs existed on September 6, 2000, prior to beginning operations, except those Existing Licensees that decline relocation. Such relocation negotiations shall be conducted as “mandatory negotiations,” as that term is used in § 101.73 of this Chapter. If these parties are unable to reach a negotiated agreement, MSS Licensees may involuntarily relocate such Existing Licensees after **[date of publication in the Federal Register + one year]**.

(ii) On the date that the first MSS licensee begins operations in the 2000-2020 MHz band, Broadcast Auxiliary Service licensees and fixed service licensees that are not operating on the new channel plan

specified Section 78.18(a)(6)(ii) of this Part must discontinue use of all operations in the 1990-2025 MHz band.

(iii) On the date that the first MSS licensee begins operations in the 2000-2020 MHz band, a one-year mandatory negotiation period begins between MSS licensees and Existing Licensees in DMAs 31-210, as such DMAs existed on September 6, 2000. After the end of the mandatory negotiation period, MSS licensees may involuntarily relocate any Existing Licensees with which they have been unable to reach a negotiated agreement. As described elsewhere in this paragraph (f), MSS Licensees are obligated to relocate these Existing Licensees within the specified three- and five-year time periods.

(2) Before negotiating with MSS licensees, Existing Licensees in Nielsen Designated Market Areas where there is a BAS frequency coordinator must coordinate and select a band plan for the market area. If an Existing Licensee wishes to operate in the 2025-2110 MHz band using the channel plan specified in Section 78.18(a)(6)(i) of this Part, then all licensees within that Existing Licensee's market must agree to such operation and all must operate on a secondary basis to any licensee operating on the channel plan specified in Section 78.18(a)(6)(ii) of this Part. All negotiations must produce solutions that adhere to the market area's band plan.

(3) [removed and reserved]

(4) [removed and reserved]

(5) As of the date the first MSS Licensee begins operations in the 1990-2025 MHz band, MSS Licensees must relocate Existing Licensees in DMAs 31-100, as they existed as of September 6, 2000, within three years, and in the remaining DMAs, as they existed as of September 6, 2000, within five years.

(6) On **[date of publication in the Federal Register + ten years]**, all Existing Licensees will become secondary in the 1990-2025 MHz band. Upon written demand by any MSS Licensee, Existing Licensees must cease operations in the 1990-2025 MHz band within six months.

4. In Section 78.103(e), the table is amended by revising footnote 1 to read as follows:

¹ After a licensee has been relocated in accordance with § 78.40, the maximum authorized bandwidth in the frequency band 2025 to 2010 MHz will be 12 megahertz.

PART 101 – FIXED MICROWAVE SERVICES

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

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

Section 101.69 is amended by revising paragraph (d) 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.

* * * * *

(d) Relocation of FMS licensees in the 2180-2200 MHz band by Mobile-Satellite Service (MSS) licensees, including MSS licensees providing Ancillary Terrestrial Component (ATC) service, will be subject to mandatory negotiations only. Mandatory negotiation periods are defined as follows:

(1) The mandatory negotiation period for non-public safety incumbents will end **[date of publication in the Federal Register + one year]**.

(2) The mandatory negotiation period for public safety incumbents will end **[date of publication in the Federal Register + two years]**.

Section 101.73 is amended by revising paragraph (d) to read as follows:

§ 101.73 Mandatory Negotiations.

* * * * *

(d) *Provisions for Relocation of Fixed Microwave Licensees in the 2180-2200 MHz band.*

Notwithstanding references to voluntary negotiation periods elsewhere in this section, relocation of FMS licensees in the 2180-2200 MHz band by Mobile-Satellite Service (MSS) licensees (including MSS licensees providing Ancillary Terrestrial Component "ATC" service) will be subject to mandatory negotiations only. Mandatory negotiations will commence on **[30 days after date of publication in the Federal Register]**. Mandatory negotiations will be conducted with the goal of providing the fixed microwave licensee with comparable facilities, defined as facilities possessing the following characteristics:

(1) * * *

(2) * * *

(3) * * *

Section 101.79 is amended by revising the title and 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 (including MSS/ATC) licensee requires use of the spectrum. ET licensees are not required to pay relocation costs after the relocation rules sunset (i.e. ten years after the voluntary period begins for the first ET licensees in the service; or, in the case of the 2180-2200 MHz band, ten years after the mandatory negotiation period begins for MSS/ATC licensees in the service). 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 Bulletin 10-F (for terrestrial-to-terrestrial situations) or TIA Bulletin 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.

Section 101.99 is removed and redesignated as Section 101.82.

APPENDIX C: Regulatory Flexibility Analysis**Final Regulatory Flexibility Analysis**

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),²¹³ an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in each of the following documents: the *Further Notice of Proposed Rulemaking* component of the *First Report and Order and Further Notice of Proposed Rulemaking*²¹⁴ and the *Third Notice of Proposed Rulemaking* component of the *Memorandum Opinion and Order and Third Notice of Proposed Rulemaking and Order*²¹⁵ in ET Docket No 95-18, the *Notice of Proposed Rulemaking*²¹⁶ in IB Docket No. 01-185, and the *Further Notice of Proposed Rulemaking* component of the *Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*²¹⁷ in ET Docket No. 00-258. The Commission sought written public comments on the proposals in the *Further Notice of Proposed Rulemaking*, the *Third Notice of Proposed Rulemaking*, the *Notice of Proposed Rulemaking* and the *Further Notice of Proposed Rulemaking*, including comment on each IRFA. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.²¹⁸

A. Need for, and Objectives of, the Third R&O and Third MO&O

2. The goal of the *Third Report and Order and Third Memorandum Opinion and Order* is twofold. First, in the *Third Report and Order*, we modify the rules that new 2 GHz Mobile-Satellite Service (MSS) licensees are to follow when relocating incumbent Broadcast Auxiliary Service (BAS) licensees that currently operate within the 1990-2025 MHz band and when relocating Fixed Service (FS) microwave licensees that currently operate within the 2180-2200 MHz band. For the 1990-2025 MHz band, we immediately initiate Phase II of a planned two-phase relocation plan. In conjunction with the beginning of Phase II, we restart negotiation periods between MSS licensees and BAS incumbents to run for the publication of the *Third Report and Order and Third Memorandum Opinion and Order* in the *Federal Register*. These actions are necessary because the *Third Report and Order*²¹⁹ in ET Docket No. 00-285 reallocated the 1990-2025 MHz band to allow for both MSS licensees and new fixed and mobile

²¹³ 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).

²¹⁴ 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, *First Report and Order and Further Notice of Proposed Rule Making*, 12 FCC Rcd 7388 (1997).

²¹⁵ 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, *Memorandum Opinion and Order and Third Notice of Proposed Rulemaking and Order*, 13 FCC Rcd 23949 (1998).

²¹⁶ 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 Band, IB Docket No. 01-185, *Notice of Proposed Rulemaking*, 16 FCC Rcd 15532 (2001).

²¹⁷ 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 Rulemaking*, 16 FCC Rcd 16043 (2001).

²¹⁸ See 5 U.S.C. § 604.

²¹⁹ 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 Rulemaking, and Second Memorandum Opinion and Order*, 18 FCC Rcd 2223 (2003).

service licensees to occupy the band. The allocation of a portion of the 1990-2025 MHz band to new fixed and mobile services means that MSS licensees will no longer be the only parties involved in the relocation of BAS incumbents that currently occupy the band. MSS licensees will operate in a reduced amount of spectrum from 2000-2020 MHz, and will now need to relocate BAS incumbents from spectrum that was designated as part of Phase II of the BAS relocation plan. Accordingly, incumbent BAS licensees must be relocated of this Phase II spectrum much more quickly than was anticipated when MSS was to occupy the entire 1990-2025 MHz band. It is also necessary to reset the negotiation periods to recognize the initiation of Phase II, the entry of new licensees into the band, and the lack of negotiation that was expected to have taken place between MSS and BAS licensees by this time. For the 2180-2200 MHz band, we affirm that the TIA TSB 10-F interference standard may be used for determining interference from MSS ATC stations to incumbent FS operations in the 2 GHz band. This modification was necessary because the *Order*²²⁰ in IB Docket No. 01-185 allowed MSS licensees to incorporate Ancillary Terrestrial Components into their systems. The 10-F standard is appropriate for the interference analysis of such non-satellite system components.

3. In the *Third Memorandum Opinion and Order*, we both grant and deny petitions for reconsideration and clarification of the above-referenced *First Report and Order and Further Notice of Proposed Rulemaking*. With respect to the 1990-2025 MHz band, we grant petitions and revise the sunset date (*i.e.* the date by which new licensees are no longer obligated to relocate incumbents in the band); require that fixed facilities operating in BAS channels 1 and 2 (1990-2008 MHz and 2008-2025 MHz, respectively) be relocated prior to the initiation of MSS service; and modify the channel plan for the frequency band to which BAS operations will be relocated. We otherwise deny the petitions relating to the 1990-2025 MHz band and retain our previously adopted relocation rules. The changes we adopt are necessary to recognize the entry of new fixed and mobile service licensees in to the 1990-2025 MHz band and the lack of negotiations to date between MSS and BAS licensees; to provide relief to fixed BAS facilities that would otherwise have to cease operation for three years or more; and to provide a new BAS channel plan that promotes efficiencies in equipment manufacture and operation by incorporating uniform channel sizes. For the 2180-2200 MHz band, we adopt a date certain from which FS-MSS negotiations and the sunset date run, and clarify that a transfer or assignment will not affect a FS licensee's relocation rights. We otherwise deny the petitions relating to the 2180-2200 MHz band and retain our previously adopted relocation rules. The changes we adopt are necessary to provide clarity to the relocation process, and serve to reduce the notification requirements for MSS licensees regarding initiation of the negotiation period that were required under the previous relocation rules.

4. Collectively, the rules we adopt in the *Third Report and Order and Third Memorandum Opinion and Order* are designed to allow for the rapid provision of MSS in the 2 GHz band by resolving outstanding issues relating to the relocation of incumbent users in the 1990-2025 MHz and 2180-2200 MHz bands. These actions are based on our response to petitions for reconsideration and clarification filed in the docket, in conjunction with the proposals we set forth in the *Notice of Proposed Rulemaking* in IB Docket No. 01-185 and the *Further Notice of Proposed Rulemaking* component of the *Memorandum Opinion and Order and Further Notice of Proposed Rulemaking* in ET Docket No. 00-258.

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

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

²²⁰ 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), *Errata* (rel. March 7, 2003), *appeal pending*, AT&T Wireless Services, Inc. and Cellco Partnership d/b/a Verizon Wireless v. FCC, No. 03-1191 (D.C. Cir. filed July 8, 2003)

the IRFA.

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

6. The RFA directs agencies to provide a description of, and, where feasible, an estimate of, the number of small entities that may be affected by the rules adopted herein.²²¹ The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”²²² In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.²²³ A “small business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).²²⁴

7. Fixed Microwave Services. Microwave services include both common carrier²²⁵ and private-operational fixed²²⁶ services. The SBA has developed a small business size standard for Cellular and Other Wireless Telecommunication, of which these fixed microwave services are a part, and which consists of all such firms having 1,500 or fewer employees.²²⁷ According to Census Bureau data for 1997, in this category there was a total of 977 firms that operated for the entire year.²²⁸ 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.²²⁹ Thus, under this size standard, the majority of firms can be considered small.

8. Broadcast Auxiliary Service (BAS). BAS involves a variety of transmitters, generally used to relay broadcast programming to the public (through translator and booster stations) or within the program distribution chain (from a remote news gathering unit back to the stations). The Commission has not developed a definition of small entities specific to broadcast auxiliary licensees. The U.S. Small Business Administration (SBA) has developed small business size standards, as follows: 1) For TV BAS, we will use the size standard for Television Broadcasting, which consists of all such companies having annual

²²¹ 5 U.S.C. § 604(a)(3).

²²² 5 U.S.C. § 601(6).

²²³ 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.”

²²⁴ 15 U.S.C. § 632.

²²⁵ 47 CFR 101 *et seq.* (formerly, part 21 of the Commission's Rules).

²²⁶ Persons eligible under parts 80 and 90 of the Commission's rules can use Private Operational-Fixed Microwave services. See 47 CFR 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.

²²⁷ 13 C.F.R. § 121.201, NAICS code 517212 (changed from 513322 in October 2002).

²²⁸ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 5, NAICS code 513322 (issued October 2000).

²²⁹ *Id.* The census data do not provide a more precise estimate of the number of firms that have 1,500 or fewer employees; the largest category provided is “Firms with 1,000 employees or more.”

receipts of no more than \$12.0 million;²³⁰ 2) For Aural BAS, we will use the size standard for Radio Stations, which consists of all such companies having annual receipts of no more than \$6 million;²³¹ 3) For Remote Pickup BAS we will use the small business size standard for Television Broadcasting when used by a TV station and that for Radio Stations when used by such a station.

9. According to Commission staff review of BIA Publications, Inc. Master Access Television Analyzer Database as of May 16, 2003, about 814 of the 1,220 commercial television stations in the United States had revenues of \$12 million or less. We note, however, that, in assessing whether a business concern qualifies as small under the above definition, business (control) affiliations²³² must be included.²³³ Our estimate, therefore, likely overstates the number of small entities that might be affected by our action, because the revenue figure on which it is based does not include or aggregate revenues from affiliated companies. There are also 2,127 low power television stations (LPTV).²³⁴ Given the nature of this service, we will presume that all LPTV licensees qualify as small entities under the SBA size standard. According to Commission staff review of BIA Publications, Inc., Master Access Radio Analyzer Database, as of May 16, 2003, about 10,427 of the 10,945 commercial radio stations in the United States had revenue of \$6 million or less. We note, however, that many radio stations are affiliated with much larger corporations with much higher revenue, and, that in assessing whether a business concern qualifies as small under the above definition, such business (control) affiliations²³⁵ are included.²³⁶ Our estimate, therefore, likely overstates the number of small businesses that might be affected by our action.

10. Cable Antenna Relay Service (CARS). CARS includes transmitters generally used to relay cable programming within cable television system distribution systems. The SBA has developed a small business size standard for Cable and other Program Distribution, which consists of all such companies having annual receipts of no more than \$12.5 million. According to Census Bureau data for 1997, there were 1,311 firms within the industry category Cable and Other Program Distribution, total, that operated for the entire year.²³⁷ Of this total, 1,180 firms had annual receipts of under \$10 million, and an additional 52 firms had receipts of \$10 million to \$24,999,999.00.²³⁸ Thus, under this standard, the majority of firms can be considered small.

11. Geostationary, Non-Geostationary Orbit, Fixed Satellite, or Mobile Satellite Service Operators (including 2 GHz MSS systems). The Commission has not developed a definition of small

²³⁰ 13 C.F.R. § 121.201, NAICS code 515120.

²³¹ *Id.* NAICS code 515112.

²³² “Concerns are affiliates of each other when one concern controls or has the power to control the other or a third party or parties controls or has to power to control both.” 13 C.F.R. § 121.103(a)(1).

²³³ “SBA counts the receipts or employees of the concern whose size is at issue and those of all its domestic concern’s size.” 13 C.F.R. § 121.103(a)(4).

²³⁴ FCC News Release, “Broadcast Station Totals as of September 30, 2002” (Nov. 6, 2002).

²³⁵ “Concerns are affiliates of each other when one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.” 13 C.F.R. § 121.103(a)(1).

²³⁶ “SBA counts the receipts or employees of the concern whose size is at issue and those of all its domestic and foreign affiliates, regardless of whether the affiliates are organized for profit, in determining the concern’s size.” 13 C.F.R. § 121.103(a)(4).

²³⁷ 13 C.F.R. § 121.201, NAICS code 517510 (changed from 513220 in October 2002).

²³⁸ *Id.*

entities applicable to geostationary or non-geostationary orbit, fixed-satellite or mobile-satellite service operators. The SBA has developed a small business size standard for Satellite Telecommunications Carriers, which consists of all such companies having \$12.5 million or less in annual receipts.²³⁹ According to Census Bureau data for 1997, there were 324 firms that operated for the entire year.²⁴⁰ Of this total, 273 firms had annual receipts under \$10 million, and an additional twenty-four firms had annual receipts of \$10 million to \$24,999,990.²⁴¹ Thus, under this size standard, the majority of firms can be considered small.

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

12. The *Third Report and Order and Third Memorandum Opinion and Order* modifies relocation rules that were originally adopted in the *Second Report and Order and Second Memorandum Opinion and Order* in this docket. To a large degree, the item contains no new reporting, recordkeeping, or other compliance requirements. For example, we retain the requirement that all BAS operations in markets 1-30 be relocated prior to the initiation of MSS in the band; decline to change the qualifications by which a BAS licensee is eligible for relocation; continue to permit BAS licensees to operate on a 17-megahertz wide channel plan within the reduced BAS spectrum band if all licensees within a market so choose; and do not alter the relocation process for FS licensees (such as adding provisions to permit self-relocation or adopting “rolling” negotiation periods). Because we previously addressed the reporting, recordkeeping, and other compliance requirements associated with these matters as part of the FRFA adopted in the *Second Report and Order and Second Memorandum Opinion and Order*, we incorporate by reference those aspects of the reporting and other compliance requirements that remain unchanged.

13. Our decision herein, however, modifies several dates associated with the relocation of BAS and FS incumbents. Specifically, the duration of the mandatory negotiation period for BAS markets 1-30, FS stations, and the sunset date are all based on the publication date of the item in the *Federal Register*. We previously froze the mandatory negotiation period for BAS relocation – originally scheduled to end on September 6, 2003 – because of unresolved issues relating to MSS deployment had limited the negotiations between MSS and BAS licensees.²⁴² Because this *Third Report and Order and Third Memorandum Opinion and Order* adopts rules and procedures that will allow the relocation of BAS and FS licensees to continue, we establish new dates associated with relocation of BAS and FS incumbents. Because the new dates are designed to afford parties that are involved in the relocation with time frames that are substantially similar to those that were previously adopted, the change in dates will have no adverse impact on all parties involved in the relocation, including smaller entities.

14. The initiation of Phase II of the BAS relocation and the requirement that all fixed BAS stations operating on channels 1 and 2 be relocated prior to the initiation of MSS operations both have the potential to affect the compliance burdens associated with relocation. The initiation of Phase II of the relocation process will reduce the overall relocation burdens for MSS by eliminating the expense and reporting requirements that are associated with Phase I. There will be no disruption and no uncertainty for BAS licensees because the rules adopted herein provide sufficient time for fixed facilities to relocate without losing their ability to operate on their existing primary status.

²³⁹ 13 C.F.R. § 121.201, NAICS code 517410 (changed from 513340 in October 2002).

²⁴⁰ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Receipt Size of Firms Subject to Federal Income Tax: 1997,” Table 4, NAICS code 513340 (issued October 2000).

²⁴¹ *Id.*

²⁴² 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, *Order*, 17 FCC Rcd 15141 (2002).

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

15. The RFA requires an agency to describe any significant alternatives that it has considered in developing its 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 and reporting requirements under the rule for such 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 such small entities.”²⁴³

16. In response to Petitions for Reconsideration of the *Second Report and Order and Second Memorandum Opinion and Order*, we concluded that the temporary loss of BAS channels 1 and 2 during relocation would have the potential to disrupt fixed BAS operations and uniquely burden licensees. For example, loss of the studio-to-transmitter links would likely necessitate television broadcast stations to obtain alternate facilities to transport their signal to their transmitter for broadcast. Otherwise, these licensees would have to wait for as many as five years before their facilities would be relocated. Because we are reluctant to impose such a delay which would unacceptably jeopardize television operations that rely on fixed BAS facilities on channels 1 and 2, we decline to exempt smaller entities from the rule requiring the rapid relocation of these facilities.

17. We retained the general rule that staggers the relocation of BAS facilities based on a market-size approach. Under this rule, the burden of MSS entrants to relocate BAS facilities is staggered over time, based on the size of a particular BAS market. Unlike mobile BAS operations, which can typically be tuned to operate on different channels, fixed BAS facilities are tuned to a single channel. Because of the importance of these fixed channels and because the temporary loss of channels 1 and 2 could uniquely impair operations for BAS licensees with fixed facilities tuned to these channels, we concluded that such facilities should be relocated without delay. We also rejected proposals that would have MSS relocate all BAS facilities, regardless of their fixed or mobile status or the size of market in which they operate. Although this action would have provided the same relief for fixed BAS facilities operating on channels 1 and 2, a wholesale front-loaded relocation of all BAS facilities would have imposed significant burdens on MSS licensees, including those MSS licensees that are small entities.

F. Report to Congress

18. The Commission will send a copy of the *Third Report and Order and Third Memorandum Opinion and Order* including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act.²⁴⁴ In addition, the Commission will send a copy of the Second Report and Order, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of this *Third Report and Order and Third Memorandum Opinion and Order* and FRFA (or summaries thereof) will also be published in the Federal Register.²⁴⁵

²⁴³ 5 U.S.C. § 603(c)(1)-(c)(4).

²⁴⁴ See 5 U.S.C. § 801(a)(1)(A).

²⁴⁵ See 5 U.S.C. § 604(b).

**APPENDIX D: BAS/LTTS/CARS Licenses operating in existing BAS channels
in the 1990-2110 MHz and 2450-2500 MHz Bands**

ULS Search Conducted on April 18, 2003													
Radio Service	BAS Channel												
	A1	A2	A1+A2	A3	A4	A5	A6	A7	A1-A7 Total	A8	A9	A10	Total
TV Studio Transmitter Link (TS)	56	32	88	26	40	39	72	37	302	12	7	1	322
TV Intercity Relay (TI)	150	123	273	141	114	136	294	182	1140	52	39	23	1254
TV Translator Relay (TT)	17	11	28	18	20	19	31	29	145	2	1	1	149
Local Television Transmission (CT)	32	34	66	34	34	35	34	34	237	30	30	1	298
Total Number of Fixed BAS & LTTS Stations	255	200	455	219	208	229	431	282	1824	96	77	26	2023
Common Carrier Point-to-Point Microwave (CF)	37	5	42	2	2	2	12	11	71	2	2	0	75
Broadcast Auxiliary Low Power (LP)	0	0	0	1	1	1	0	0	3	0	0	0	3
TV Microwave Booster (TB)	1	0	1	0	0	0	1	0	2	0	0	0	2
Aural Intercity Relay (AI)	1	0	1	0	0	0	0	0	1	0	0	0	1
Microwave Public Safety Pool (MW)	0	0	0	0	1	0	1	1	3	62	50	0	115
Total Number of Fixed Station Licenses	294	205	499	221	212	232	445	294	1904	160	129	26	2219
TV Pickup (TP)—Center Frequency Search	3	7	10	7	7	6	7	8	55	--	--	--	55
Total No. of Licenses in the Fixed and Mobile Services	297	212	509	228	219	238	452	302	3412	456	393	100	2285
TV Pickup (TP) (Bandedge-to-bandedge licenses)	1559 TP licenses, each for the band 1990-2110 MHz (A1-A7)									296	264	94 grand-fathered	3830
										313			
	1603 TP licenses, each for the bands 1990-2110 MHz & 2450-2483.5 MHz (A1-A9)												
	1611 TP licenses, each for the bands 1990-2110 MHz & 2450-2500 MHz (A1-A10)												
CARS Mobile (Bandedge-to-bandedge licenses)	10 CARS licenses, each for the band 1990-2110 MHz (A1-A7), plus one CARS license for A4-A6									0			3841

Note: The totals shown here overstate the actual number of stations in operation. If a license authorizes operation on frequencies used by more than one BAS channel, that license will be included in the total count in each applicable BAS Channel column. This chart also includes licenses that operate on a secondary basis, which are not eligible for relocation at the expense of MSS licensees.