

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

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In the Matter of)	
)	
Improving Public Safety Communications in the 800 MHz Band)	WT Docket 02-55
)	
Consolidating the 800 and 900 MHz Industrial/Land Transportation and Business Pool Channels)	
)	
Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems)	ET Docket No. 00-258
)	
Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for use by the Mobile Satellite Service)	ET Docket No. 95-18
)	
Application for Review of Grant of ATC authority to New ICO Satellite Services G.P.)	File No. SES-LIC-20071203-01646
)	SES-AMD-20080118-00075
)	SES-AMD-20080219-00172
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**REPORT AND ORDER AND ORDER AND
FURTHER NOTICE OF PROPOSED RULEMAKING**

Adopted: June 10, 2009

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By the Commission:

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I. INTRODUCTION

1. In this Report and Order and Order and Further Notice of Proposed Rulemaking, we address the ongoing relocation of the Broadcast Auxiliary Service (BAS) from the 1990-2110 MHz band to the 2025-2110 MHz band. The rules and procedures we adopt, as well as the modifications we propose, are crafted to ensure the continuity of important BAS operations – such as remote newsgathering operations and studio-to-transmitter links – while completing a transition that will make 35 megahertz of valuable spectrum available for many different new services by Mobile Satellite Service (MSS) operators, Sprint Nextel Corporation (Sprint Nextel), and future Advanced Wireless Services (AWS) licensees.

2. In the Report and Order and Order, we:

- waive until February 8, 2010 the deadline by which Sprint Nextel is required to complete the transition of the BAS incumbents to frequencies above 2025 MHz;
- eliminate the requirement that MSS operators may not begin operations until the relocation of BAS in the thirty largest markets and all fixed BAS links in all markets is complete;
- address the interference environment during the period in which both MSS and BAS operate in the 2000-2020 MHz band by permitting the MSS entrants to conduct operations where the BAS incumbents have not been relocated only if they successfully coordinate with the BAS incumbents; and
- waive our rules governing when an MSS operator may provide Ancillary Terrestrial Component (ATC) service in relation to commercial satellite service.

In the Further Notice of Proposed Rulemaking (Further Notice), we:

- tentatively conclude that MSS operators and future AWS licensees will have an obligation to share, on a *pro rata* basis, in the costs associated with the relocation of BAS incumbents if they “enter the band” prior to the BAS sunset date of December 9, 2013;
- tentatively conclude that an MSS operator “enters the band” and thus incurs an obligation to share in the costs associated with relocation of BAS incumbents when its satellite is found operational under its authorization milestone;
- seek comment on various approaches for when MSS operators should be required to reimburse Sprint Nextel for their *pro rata* shares of the relocation costs;
- invite additional analysis on whether MSS entrants can operate on a secondary basis without coordination where BAS incumbents have not been relocated;
- propose to clarify that MSS operators retain an obligation to relocate BAS incumbents after the MSS operator begins operations; and
- seek comment on incentives to continue to encourage BAS licensees to complete the relocation process without unnecessary delay.

All of the matters addressed herein relate to our fundamental goals of completing the relocation of BAS operations from the 1990-2025 MHz band and providing for the operation of new services on those frequencies.

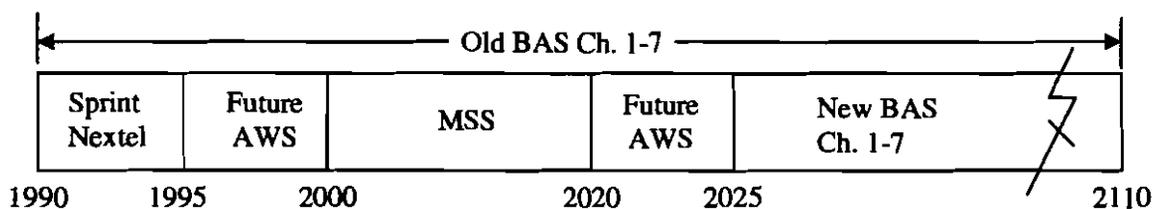
3. It has been over a decade since the Commission determined that BAS operations should be relocated to allow for the exclusive deployment of new MSS operations and established relocation and cost sharing requirements for the new MSS entrants. Since that time, there have been many changes involving the 1990-2025 MHz band. The number of MSS operators seeking to use the band declined from eight to two, and the beginning of MSS operations has been delayed several years for various reasons. The Commission determined that the amount of spectrum made available for MSS operations should be reduced from 35 megahertz to 20 megahertz, and it reallocated the other 15 megahertz of spectrum to the Fixed and Mobile services to be used for new terrestrial services. Sprint Nextel, as part of its agreement to restructure operations in the 800 MHz band, developed a plan to undertake the relocation of BAS operations throughout the 1990-2025 MHz band in order to use 5 megahertz of this spectrum. The remaining 10 megahertz of spectrum has been identified for future AWS licensees, although the Commission is still considering the appropriate service and licensing rules for those bands. Finally, the relocation of BAS incumbents, which did not begin in earnest until 2005, has proven to be much more complex and difficult than was originally anticipated.

4. The Commission made various necessary modifications to the rules and procedures for the relocation of incumbent BAS licensees when it decided to reallocate 15 megahertz of the 1990-2025 MHz band spectrum for new terrestrial services by Sprint Nextel and future AWS licensees. Nonetheless, the continued delay in completing the BAS relocation and the disagreement between Sprint Nextel and the MSS entrants on sharing relocation costs require the Commission to take further action. The actions we take herein are designed to balance the interests of both incumbent BAS licensees, which are entitled to relocation to the 2025-2110 MHz band, and new entrants that are poised to provide new and valuable services to the public. Moreover, because we recognize that the importance of BAS as a crucial component of broadcasting operations dictates that we cannot leave this transition unfinished, the modifications and proposals we adopt are intended to bring this long and complex process to completion. Successful completion of this process does not rest with any one party but requires the cooperation of the incumbents and all new entrants, acting in good faith, to assume responsibility for the relocation process so that all may benefit.

II. BACKGROUND

5. The 1990-2110 MHz band is currently primarily used by the Broadcast Auxiliary Service.¹ The predominant application of BAS in this band is electronic news gathering (ENG) by mobile units. Other uses include studio-transmitter links, which carry television signals from studios to broadcast transmission antennas, and relay stations, which re-transmit television signals.

6. To promote more efficient use of this spectrum, and to permit the entry of new services, the Commission previously determined that these BAS licensees should be transitioned to a new, narrower bandplan.² By replacing existing analog BAS equipment with more spectrally efficient digital BAS equipment, the Commission concluded that licensees would be able to maintain their current level of operations within the 2025-2110 MHz band segment. This, in turn, enabled the Commission to make the 1990-2025 MHz band segment available for new applications, as shown below.



7. *Band Reallocation.* The Commission's first plans for transitioning BAS date back to March 1997, when the Commission decided to reallocate a 35 megahertz band segment (1990-2025 MHz) to the MSS as an uplink band, effective January 1, 2000.³ As part of its reallocation decision, the Commission established a plan for new MSS entrants to relocate incumbent BAS licensees that was based on policies for determining responsibility for relocating services that were first established in the Commission's *Emerging Technologies* proceeding.⁴ Specifically, MSS entrants would realign the band by modifying or

¹ 47 C.F.R. §§ 74.602, 78.18(a)(6), 101.803(b). The band is also authorized for use by the Cable Television Relay Service (CARS) and the Local Television Transmission Service (LTTS). For purposes of this proceeding, we will refer to all three of these services under the collective term "BAS."

² 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 Rulemaking*, 12 FCC Rcd 7388 at ¶ 32 (1997) (*MSS First R&O*); 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 at ¶¶ 6, 11-13, 20 (2000) (*MSS Second R&O*); See also 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, ET Docket No. 01-75, *Report and Order*, 17 FCC Rcd 22979 at ¶ 15 (2002).

³ *MSS First R&O* at ¶ 8.

⁴ See *Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies*, ET Docket No. 92-9, *First Report and Order and Third Notice of Proposed Rule Making*, 7 FCC Rcd 6886 (1992); *Second Report and Order*, 8 FCC Rcd 6495 (1993); *Third Report and Order and Memorandum Opinion and Order*, 8 FCC Rcd 6589 (1993); *Memorandum Opinion and Order*, 9 FCC Rcd 1943 (1994); *Second Memorandum Opinion and Order*, 9 FCC Rcd 7797 (1994); *aff'd Association of Public Safety Communications Officials-International, Inc. v. FCC*, 76 F.3d 395 (D.C. Cir. 1996) (collectively, "*Emerging Technologies* proceeding"). See also Amendment to the Commission's Rules Regarding a Plan for Sharing the Costs of Microwave Relocation, WT Docket No. 95-157, *First Report and Order and Further Notice of Proposed Rule Making*, 11 FCC Rcd 8825 (1996); *Second Report and Order*, 12 FCC Rcd 2705 (1997).

replacing the equipment of BAS licensees.⁵ In recognition of the fact that BAS use is often concentrated within and coordinated by individual television markets, the plan called for BAS realignment to proceed based on a market-by-market basis in which all BAS licensees in a particular market were to be transitioned at the same time.⁶

8. In January 2003, the Commission recognized that not all of the originally authorized 2 GHz MSS applicants still planned to construct their systems, determined that the remaining MSS systems could operate on a reduced amount of spectrum, and reallocated 15 megahertz of former BAS spectrum in the 1990-2000 MHz and 2020-2025 MHz band segments to the Fixed and Mobile services to be used for new terrestrial services.⁷ In making this reallocation decision, the Commission noted that responsibility for relocation of BAS from the band would be shared between the MSS systems and the other new entrants to the band.⁸ In November 2003, as a consequence of this reallocation of part of the 2 GHz MSS spectrum to other uses, the Commission modified the rules by which MSS operators would relocate BAS incumbents.⁹ Under the revised transition plan, the MSS systems would not be permitted to begin operation until the relocation of BAS in the top 30 television markets (in terms of population) as well as relocation of fixed BAS links in all markets was complete (together, the "top 30 market rule").¹⁰ However, the MSS operators would have to transition markets 31-100 within three years and the remaining markets within five years.¹¹ Finally, BAS licensees in markets not yet transitioned when MSS began offering service would have to refrain from using BAS channels 1 and 2 until transitioned (*i.e.* 1990-2025 MHz).¹²

9. In 2004, the Commission determined that five megahertz (the 1990-1995 MHz band) of this 15 megahertz allocation for Fixed and Mobile services should be licensed to Sprint Nextel (which, at that

⁵ *MSS Second R&O* at ¶¶ 29-33. The plan called for BAS to transition in two phases. The BAS incumbents would first be relocated to a 2008-2110 MHz "phase 1" bandplan. Later, when more spectrum was required for MSS, the BAS incumbents would be transitioned to the final 2025-2110 MHz "phase 2" channel plan.

⁶ For purposes of BAS relocation, markets are based on Nielsen Designated Market Areas (DMAs) as they existed on September 6, 2000. 47 C.F.R. § 74.690(e). For convenience we shall refer to the DMAs as "markets" or "BAS markets."

⁷ 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, IB Docket No. 99-81, *Third Report and Order, Third Notice of Proposed Rulemaking, and Second Memorandum Opinion and Order*, 18 FCC Rcd 2223 at ¶¶ 28, 35 (2003) (*AWS Third R&O*). This decision reduced the MSS allocation in this band to the 2000-2020 MHz segment. By the time this decision was issued, the number of MSS entrants had been reduced from eight to five.

⁸ *Id.* at ¶ 37.

⁹ 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, ET Docket No. 00-258, IB Docket No. 01-185, *Third Report and Order and Third Memorandum Opinion and Order*, 18 FCC Rcd 23638 at ¶¶ 29-44 (2003) (*MSS Third R&O*). The rules were modified in 2003 to eliminate Phase 1 because only a small portion of the revised MSS allocation from 2000-2020 MHz would have become available under the phase 1 bandplan. *MSS Third R&O* at ¶¶ 30-35.

¹⁰ 47 C.F.R. §§ 74.690(e)(1)(i), 78.40(f)(1)(i); *MSS Third R&O* at ¶¶ 38, 51. The BAS relocation plan adopted in 2000 required the relocation of BAS facilities in the top 30 markets before MSS could begin operations while the requirement that the fixed links also be relocated was added in 2003. The Commission required fixed BAS links in all markets to be relocated before MSS could begin operation because, in general, these are fixed point-to-point links which can not be easily switched to another BAS channel. Non-fixed BAS operations in the markets outside the top 30 can avoid interference from MSS by switching to BAS channels that do not conflict with the MSS spectrum. *Id.* at ¶¶ 48-52.

¹¹ 47 C.F.R. §§ 74.690(e)(5), 78.40(f)(5).

¹² See Final Rules 47 C.F.R. §§ 74.690(e)(1)(ii), 78.40(f)(1)(ii) in *MSS Third R&O* at Appendix B.

time, was known as Nextel).¹³ This decision was a component of the *800 MHz R&O*, in which the Commission undertook a major realignment of the 800 MHz band to resolve ongoing interference between public safety and commercial operations – including those by Sprint Nextel – within the band. In conjunction with this realignment, Sprint Nextel was granted the future use of the five megahertz in the 1990-1995 MHz band, which was paired with the 1910-1915 MHz band (which falls outside of the BAS allocation).¹⁴ However, and as discussed in greater detail below as part of this action, Sprint Nextel also committed to certain actions regarding the relocation of BAS incumbents from the entire 35 megahertz in the 1990-2025 MHz band.

10. When the decision was made to permit Sprint Nextel to use the 1990-1995 MHz band, no BAS licensees had yet been relocated and there was no evidence that any meaningful relocation negotiations had taken place between BAS licensees and MSS entrants. Moreover, the initial two-year mandatory negotiation period of the relocation plan between MSS and BAS, which had been scheduled to end on September 6, 2002, had already been extended several times.¹⁵ Against this backdrop, the Commission established, in the *800 MHz R&O*, specific BAS relocation obligations for Sprint Nextel. These procedures were based, in large part, on a joint proposal of Sprint Nextel, the Association for Maximum Service Television (MSTV), and the National Association of Broadcasters (NAB), and required Sprint Nextel to relocate all BAS licensees from the 1990-2025 MHz band within 30 months of the effective date of the *800 MHz R&O*, which was subsequently extended by 45 days, to September 7, 2007.¹⁶ Under the plan, Sprint Nextel was permitted to relocate the BAS licensees in any order, but was prohibited from using the 1990-1995 MHz spectrum in a BAS market until all BAS licensees in that market have been relocated.

11. When Sprint Nextel undertook its commitment to relocate the BAS licensees, the Commission did not remove either the obligation previously placed on the MSS entrants to relocate the BAS licensees, or the procedures that had already been put in place for doing so. Because MSS entrants were not permitted to begin operation until BAS in the top 30 television markets and all fixed BAS links in all markets have been relocated, the Commission recognized in the 2004 *800 MHz R&O* the possibility that MSS systems might wish to begin operation before Sprint Nextel had relocated BAS licensees in the

¹³ Improving Public Safety Communications in the 800 MHz Band, WT Docket No. 02-55, ET Docket No. 00-258, ET Docket No. 95-18, *Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order*, 19 FCC Rcd 14969 at ¶¶ 8-12 (2004) (*800 MHz R&O*). The remaining ten megahertz was designated for Advanced Wireless Service (AWS) in the *AWS Sixth Report and Order*. 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, ET Docket No. 95-18, *Sixth Report and Order, Third Memorandum Opinion and Order, and Fifth Memorandum Opinion and Order*, 19 FCC Rcd 20720 (2004). Licenses have not been issued for these AWS bands, and thus, there are no entrants in the 1995-2000 MHz and 2020-2025 MHz band segments to participate in the BAS relocation process at this time.

¹⁴ Sprint Nextel's band clearing obligations for the 1910-1915 MHz band were distinct from its obligations to BAS and MSS in the 1990-1995 MHz band and are not at issue here.

¹⁵ This was the mandatory negotiation period for phase 1 of the BAS-MSS transition plan adopted in 2000. 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, *Order*, 17 FCC Rcd 15141 (2002); 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 18359 (OET, 2003); 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 23074 (OET, 2003); *MSS Third R&O* at ¶ 42.

¹⁶ *800MHz R&O* at ¶¶ 251-54, 347; Commission Seeks Comment on *Ex Parte* Presentations and Extends Certain Deadlines Regarding the 800 MHz Public Safety Interference Proceeding in WT Docket No. 02-55, *Public Notice*, 19 FCC Rcd 21492 (2004).

top 30 markets.¹⁷ As of today, no MSS entrant, however, has opted to invoke its right to relocate BAS licensees in any of the top 30 markets.¹⁸

12. As part of its integration of the Sprint Nextel relocation plan with the pre-existing MSS relocation procedures, the Commission eliminated the requirement that BAS licensees outside the top 30 markets that had not been relocated had to cease using a portion of the band once MSS operators began service. In removing this requirement, the Commission noted that Sprint Nextel would likely relocate most BAS licensees before MSS systems begin operations, and thus, the need for the rule – to avoid interference between MSS and BAS in those markets where BAS relocation had not yet taken place – would likely be overtaken by events.¹⁹ Moreover, if MSS systems did begin operation before all BAS were relocated, the Commission reasoned, the MSS entrants and remaining BAS licensees could work together to minimize interference. The Commission noted, however, that MSS “would have to accept interference from the remaining BAS users until they are relocated.”²⁰

13. Meanwhile, in 2003 the Commission adopted rules allowing the MSS entrants to add an ancillary terrestrial component (ATC) to their systems.²¹ An ATC is “a terrestrial communications network used in conjunction with a qualifying satellite network system.”²² The Commission will not grant a 2 GHz MSS operator authority to add ATC to its system unless it satisfies several preconditions (known as gating criteria), including the requirements that satellite service must be commercially available in the entire coverage area for the band and that the MSS operator offer an integrated satellite and ATC service.²³ While the Commission will not grant ATC authority until all of the gating criteria are satisfied, MSS operators may submit their application for ATC authority prior to satisfying all the criteria and MSS operators may construct and test their ATC systems prior to receiving ATC authority.²⁴ However, they may not offer commercial service using the ATC portion of their network until their ATC application has been approved. 2 GHz MSS ATC systems must use the 2000-2020 MHz band now

¹⁷ 800 MHz R&O at ¶ 257. See also 47 C.F.R. §§ 74.690(e)(1)(i), 78.40(f)(1)(i) (describing this relocation obligation).

¹⁸ The Commission required Sprint Nextel to file a plan within 30 days of the issuance of the 800 MHz R&O stating which markets that it would relocate within eighteen months. The MSS entrants then had 30 days to review this plan and identify which of the top 30 markets they intended to invoke involuntary relocations. Sprint Nextel submitted its plan as required, and no MSS entrant opted to invoke its right to relocate BAS licensees in any of the top 30 markets. See BAS Relocation Schedule and Implementation Plan, Nextel Communications, Inc., WT Docket 02-55, ET Docket No. 00-258, ET Docket No. 95-18, filed April 6, 2005.

¹⁹ 800 MHz R&O at ¶¶ 269-270.

²⁰ *Id.* at ¶ 270.

²¹ 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, *Report and Order and Notice of Proposed Rulemaking*, IB Docket No. 01-185, IB Docket No. 02-364, 18 FCC Rcd 1962 (2003) (*Flexibility R&O*).

²² 47 C.F.R. § 25.201.

²³ 47 C.F.R. § 25.149(b). *Flexibility R&O* at ¶¶ 78-88. The offering of an integrated service may be established by demonstrating that the MSS ATC operator will use a dual mode subscriber handset which can communicate with both the satellite and ancillary terrestrial components of the network in order to provide the proposed service. 47 C.F.R. § 25.149(b)(4). Other gating criteria require the MSS operator to demonstrate that it can provide service via its satellite throughout all fifty states, Puerto Rico, and the U.S. Virgin Islands, unless it is not technically possible, and for MSS operators using geosynchronous satellites to maintain a spare satellite. 47 C.F.R. §§ 25.149(b)(1)(i), 25.149(b)(2)(ii).

²⁴ 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, *Order on Reconsideration*, IB Docket No. 01-185, 18 FCC Rcd 13590 at ¶¶ 8-13 (2003) (*Flexibility Recon Order*). See also 47 C.F.R. § 25.143(i)-(j); *Flexibility R&O* at ¶ 250.

occupied by BAS for transmissions from mobile terminals to base stations.²⁵ The MSS operator must resolve any harmful interference that occurs to other services from ATC base stations or mobile terminals.²⁶

14. In 2007, the two remaining 2 GHz MSS entrants, TerreStar Networks Inc. (TerreStar) and New ICO Satellite Services G.P. (ICO),²⁷ each notified the Commission of its intent to construct and test ATC systems.²⁸ In January of 2009, ICO was authorized to operate ATC stations conditioned on its commercial satellite service being available to the public throughout its satellite's coverage area and subject to the outcome of this proceeding.²⁹ Because ICO may not begin satellite operations until BAS incumbents in the top 30 markets and all fixed BAS links have been relocated, ICO is likewise prevented from offering commercial ATC service until these BAS incumbents have been relocated.³⁰ The Commission has not yet acted on TerreStar's request for authorization to operate an ATC system.³¹

15. *BAS Relocation MO&O and FNPRM.* Under the BAS relocation framework set forth in the *800 MHz R&O*, Sprint Nextel was to have relocated the BAS incumbents by September 7, 2007. On September 4, 2007, Sprint Nextel, MSTV, NAB, and the SBE filed a Joint Petition, which sought a waiver of the September 7, 2007 BAS relocation deadline for 29 months, *i.e.* until February 7, 2010.³² According to the Joint Petition, circumstances beyond the control of Sprint Nextel and the BAS licensees delayed the relocation process in ways that could not have reasonably been anticipated.

16. On December 6, 2007, the Joint Petitioners filed a plan for completing the BAS transition.³³ This plan was created after a comprehensive series of discussions and a day-long conference between the Joint Petitioners, several independent broadcasters, BAS system integrators, BAS installation firms, BAS

²⁵ 47 C.F.R. § 25.149(a)(1). *Flexibility R&O* at ¶ 107-08. Transmissions from base stations to mobile terminals must take place in the 2180-2200 MHz band.

²⁶ 47 C.F.R. § 25.255.

²⁷ On May 13, 2009, ICO filed a letter to notify the Commission that it has changed its corporate name to New DBSD Satellite Services G.P. with respect to the entity holding the spectrum reservation and associated licenses. For administrative convenience, we will refer to the entity by its previous corporate name throughout this document.

²⁸ Letter Notification of Intent to Construct and Test ATC Facilities (Corrected Version), New ICO Satellite Services G.P., File Nos. SAT-LOI-199770926-00163, SAT-MOD-20070806-00110, filed Aug. 30, 2007; Letter of Intent Authorization, TerreStar Networks Inc., File Nos. SAT-LOI-19970926-00161, SAT-ASG-20021211-00238, SAT-AMD-20061127-00143, SAT-MOD-20070529-00075, filed Sept. 7, 2007.

²⁹ New ICO Satellite Services G.P. Application for blanket authority to operate Ancillary Terrestrial Component base station and dual-mode MSS-ATC mobile terminals in the 2 GHz bands, *Order and Authorization*, DA 09-38, File-No. SES-LIC-20071203-01646, SES-AMD-20080118-00075, SES-AMD-20080219-00172, 24 FCC Rcd 171 at ¶¶ 33-34, 68-69 (2009).

³⁰ *Id.* at ¶¶ 32-33.

³¹ TerreStar Networks Inc. Application for authority to operate Ancillary Terrestrial Component, File No. SES-AMD-20080229-00217, filed Sept. 7, 2007, amended by File No. SES-AMD-20080229-00217, filed Feb. 29, 2008.

³² Joint Petition for Waiver of Sprint Nextel Corporation, the Association for Maximum Service Television, Inc. (MSTV), the National Association of Broadcasters (NAB), and the Society of Broadcast Engineers (SBE), WT Docket No. 02-55, ET Docket No. 00-258, ET Docket No. 95-18, Sept. 4, 2007 (*Joint Petition*).

³³ Consensus Plan of Sprint Nextel Corp., the Association for Maximum Service Television, Inc., the National Association of Broadcasters, and the Society of Broadcast Engineers, WT Docket No. 02-55, ET Docket No. 00-258, ET Docket No. 95-18, filed Dec. 6, 2007 (*Sprint Nextel et al. Plan*); Letter from Sprint Nextel Corp., WT Docket No. 02-55, ET Docket No. 00-258, ET Docket No. 95-18, filed Dec. 13, 2007 (erratum correcting *Sprint Nextel et al. Plan*).

equipment manufacturers, T-Mobile USA, TerreStar, and ICO.³⁴ The Sprint Nextel *et al.* plan proposed that the BAS transition be completed within twenty-four months of the September 7, 2007 BAS transition deadline (*i.e.*, September 7, 2009) instead of twenty-nine months as requested by the Joint Petition. The plan included a schedule showing when each BAS market will be transitioned. Under the plan, BAS operations in the last three of the top 30 markets, which under the Commission's current rules must be transitioned before the 2 GHz MSS operators can provide service, will not be transitioned until August 2009.³⁵

17. In the *BAS Relocation MO&O* adopted in March of 2008, the Commission waived Sprint Nextel's deadline for completing the relocation of the BAS incumbents until March 5, 2009.³⁶ The Commission concluded that waiver of the deadline was in the public interest because of the role Sprint Nextel had taken in relocating BAS licensees, and because removing Sprint Nextel from the process would bring a halt to the transition that was well underway.³⁷ Furthermore, the Commission found that the record documented numerous factors that had prevented Sprint Nextel from relocating the BAS incumbents under the original schedule, and concluded that the "record presents a compelling case that the BAS transition is sufficiently complex that it would be difficult (if not impossible) to finish it before" the September 7, 2007 date.³⁸

18. Although the Commission believed that granting a waiver of the September 7, 2007 date was in the public interest, it did not grant a 29-month waiver of the deadline as requested in the Joint Petition. It instead settled on a new BAS transition deadline of March 5, 2009 and held in abeyance the parties' request to extend the relocation deadline to February 7, 2010. The Commission recognized that MSS entrants had expressed an interest in deploying nationwide service as early as January 1, 2009 and also concluded that it was prudent to set a date for completion of the BAS relocation beyond the nationwide DTV transition date, which at that time was scheduled for February 17, 2009.³⁹ While it did not adopt nor approve the Sprint Nextel *et al.* plan, the Commission observed it was a useful tool and stated that it would consider how well it was implemented before considering whether and how long to extend the waiver of the BAS relocation process beyond March 5, 2009.⁴⁰

19. In the *BAS Relocation FNPRM* that accompanied the *BAS Relocation MO&O*, the Commission tentatively concluded that it would eliminate, starting on January 1, 2009, the requirement that BAS in markets 1-30 and all fixed BAS links be relocated before the MSS entrants may begin operations.⁴¹ The Commission also sought comment on the potential for interference to occur if the MSS operators begin operation before all of the BAS licensees have been relocated, as well as means that such

³⁴ *Id.* at ¶ 2. Although all of these parties are listed as having attended the conference at which the Sprint Nextel *et al.* plan was developed, the plan was submitted to the Commission by only the filers of the Joint Petition.

³⁵ The filed Sprint Nextel *et al.* plan also notes that the MSS operators sought unfettered access to all the MSS frequencies between 2000-2020 MHz as of January 1, 2009. However, the BAS licensees express concerns that allowing the MSS entrants access to this spectrum prior to BAS markets being transitioned could cause harmful interference to BAS operations. *Id.* at 8-9.

³⁶ Improving Public Safety Communications in the 800 MHz Band, *Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, WT Docket No. 02-55, ET Docket No. 00-258, ET Docket No. 95-18, 23 FCC Rcd 4393 ¶ 29 (2008) (*BAS Relocation MO&O*).

³⁷ *Id.* at ¶ 30.

³⁸ *BAS Relocation MO&O* at ¶¶ 31-33. These factors included limited manufacturing and installation resources, unexpected difficulties in integrating of new and legacy BAS equipment, and unanticipated tax and other issues that arose during the relocation negotiation process.

³⁹ *Id.* at ¶ 34.

⁴⁰ *Id.* at ¶ 36.

⁴¹ *Id.* at ¶ 49.

interference may be avoided or corrected.⁴² The Commission noted that, even in the absence of the top 30 market rule, MSS would be secondary in those markets where BAS had not been relocated and requested comments on whether this rule should be maintained.⁴³ In addition, the Commission sought comment on requiring only fixed BAS links in the MSS portion of the band be relocated before MSS can begin operations as opposed to the current requirement that all fixed BAS links be relocated.⁴⁴ Further, the Commission sought comment on allowing MSS operators to begin operation only in those markets where BAS licensees have been relocated (a market-by-market approach).⁴⁵

20. In response to the *BAS Relocation FNPRM*, both ICO and TerreStar have filed comments supporting the elimination of the requirement that BAS incumbents in the top 30 markets and all fixed BAS links must be relocated before they can begin operations.⁴⁶ Sprint Nextel, MSTV, and NAB oppose the elimination of these requirements.⁴⁷

21. *Subsequent Developments*: As required by the terms of the *BAS Relocation MO&O*, Sprint Nextel has filed status reports on the BAS transition every two months.⁴⁸ These reports show that the BAS transition continues to make substantial progress, but also that Sprint Nextel has never anticipated that the BAS relocation could be completed by March 5, 2009.⁴⁹ As of April 2009, frequency relocation agreements and purchase orders had been completed for ninety-nine percent of BAS stations, and all equipment had been delivered to sixty-four percent of the stations. In fifty-three percent of the BAS stations, incumbents have installed their replacement equipment, and thirty-nine percent of the stations are in markets that have transitioned to the new bandplan.⁵⁰ The BAS transition has been completed along much of the east coast, southern Texas, the western part of the country excluding the west coast, and parts of the Midwest. The BAS transition is, in general, following the Sprint Nextel *et al.* plan. However, many of the market transitions have occurred later than scheduled in the plan.

22. In the *BAS Relocation MO&O*, the Commission discussed the milestones regarding the construction, launch, and operation of satellite systems that ICO and TerreStar are required to meet as a

⁴² *Id.* at ¶ 55. The 2000-2020 MHz band will be used by MSS for transmissions from MSS handsets to MSS satellites and MSS ancillary terrestrial component (ATC) base stations. Transmissions from the MSS handsets can interfere with BAS receivers. BAS transmitters can cause interference to receivers in the MSS satellites and ATC base stations.

⁴³ *BAS Relocation MO&O* at ¶¶ 52, 54.

⁴⁴ *Id.* at ¶ 53.

⁴⁵ *Id.* at ¶ 56.

⁴⁶ Comments of TerreStar Networks Inc., WT Docket No. 02-55, ET Docket No. 00-258, ET Docket No. 95-18, filed April 30, 2008 at 3-5 (*TerreStar FNPRM Comments*); Reply Comments of TerreStar Networks Inc., WT Docket No. 02-55, ET Docket No. 00-258, ET Docket No. 95-18, filed May 30, 2008 at 5-9 (*TerreStar FNPRM Reply*); Comments of New ICO Satellite Services G.P., WT Docket No. 02-55, ET Docket No. 00-258, ET Docket No. 95-18, filed April 30, 2008 at 3-9 (*ICO FNPRM Comments*); Reply Comments of New ICO Satellite Services G.P., WT Docket No. 02-55, ET Docket No. 00-258, ET Docket No. 95-18, filed May 30, 2008 at 2-7 (*ICO FNPRM Reply*).

⁴⁷ Comments of Sprint Nextel Corp., WT Docket No. 02-55, ET Docket No. 00-258, ET Docket No. 95-18, filed April 30, 2008 at 6-11 (*Sprint FNPRM Comments*); Comments of the Association for Maximum Service Television and the National Association of Broadcasters, WT Docket No. 02-55, ET Docket No. 00-258, ET Docket No. 95-18, filed April 30, 2008 at 5-7, 12-14 (*MSTV/NAB FNPRM Comments*).

⁴⁸ *BAS Relocation MO&O* at ¶ 44.

⁴⁹ See, e.g. Sprint Nextel *ex parte* Filing, WT Docket No. 02-55, ET Docket No. 00-258, ET Docket No. 95-18, filed Nov. 26, 2008 at Appendix C (setting forth a relocation schedule that anticipates the last BAS markets being cleared in August, 2009).

⁵⁰ *Id.* at Appendix B, p. 1.

condition for obtaining their MSS spectrum reservations.⁵¹ As background, both MSS entrants have sought and received a number of extensions of these milestones in the time since they received their spectrum reservations. TerreStar's spectrum reservation was granted in 2001 with a launch milestone of July 2006 and an operational milestone of July 2007.⁵² TerreStar's launch milestone is now June 30, 2009 and its operational milestone has been delayed until August 30, 2009.⁵³ ICO's spectrum reservation was granted in 2001 with an original launch milestone of July 2005 and an operational milestone of July 2007.⁵⁴ In the *BAS Relocation MO&O*, the Commission recognized the unusual circumstances presented by the BAS transition, and clarified that, for purposes of their milestone certifications, ICO's and TerreStar's satellite systems will be considered operational based upon the occurrence of transmissions between the satellite and an authorized earth station using the 2000-2020 MHz and 2180-2200 MHz bands.⁵⁵ ICO launched its satellite in April 2008 and, in May 2008, met its operational milestone under the terms of the *BAS Relocation MO&O*.⁵⁶

23. On February 12, 2009, Sprint Nextel, MSTV, NAB, and SBE filed the Supplemental Request, in which they renewed their request to extend until February 7, 2010 the deadline by which Sprint Nextel must

⁵¹ TerreStar's predecessor-in-interest (TMI Communications and Company, Limited Partnership) and ICO were issued a reservation of spectrum in lieu of a Title III license, as is permitted for foreign licensed satellites. 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, *Report and Order*, IB Docket No. 96-111, CC Docket No. 93-23, 12 FCC Rcd 24094 ¶¶ 183-188 (1997); 47 C.F.R. § 25.137.

⁵² TMI Communications and Company, Limited Partnership, Letter of Intent to Provide Mobile-Satellite Service in the 2 GHz Bands, File Nos. 189-SAT-LOI-97, SAT-LOI-19970926-00161, SAT-AMD-20001103-00158, *Order*, 16 FCC Rcd 13808 (Int'l Bur. 2001).

⁵³ On June 21, 2004 (two weeks prior to the adoption of the *800 MHz R&O*), TerreStar's launch milestone was changed to November 2007 and its operational milestone was extended to November 2008. TMI Communications and Company, Limited Partnership and TerreStar Networks Inc. Application for Review and Request for Stay, File Nos. SAT-LOI-19970926-00161, SAT-AMD-20001103-00158, SAT-MOD-20021114-00237, SAT-ASG-20021211-0023819 FCC Rcd 12603 (2004). In 2008 TerreStar's milestones were extended further. Grant of FCC Application for Space and Earth Station: Mod or AMD, File No. Sat-Mod-20080718-00143, granted Nov. 12, 2008. TerreStar recently informed the Commission that the launch of its satellite will be delayed beyond the current June 30, 2009 launch milestone. However, TerreStar still expects to meet the August 30, 2009 operational milestone. TerreStar Networks Inc. Letter, File Nos. SAT-LOI-19970926-00161, SAT-AMD-20001103-00158, SAT-MOD-20021114-00237, SAT-ASG-20021211-00238, filed June 9, 2009.

⁵⁴ ICO Services Limited Letter of Intent to Provide Mobile-Satellite Service in the 2 GHz Bands, File No. 188-SAT-LOI-97, SAT-LOI-19970926-00163, SAT-AMD-20000612-00107, SAT-AMD-20001103-00155, *Order*, 16 FCC Rcd 13762 (Int'l Bur. 2001). In May 2005, ICO's launch milestone was delayed until July 2007. ICO Satellite Services G.P. Application for Modification of 2 GHz LOI Authorization, *Memorandum Opinion and Order*, IBFS Nos. SAT-MOD-20050110-00004, SAT-LOI-19970926-00163, SAT-PDR-20050110-00024, 20 FCC Rcd 9797 (Int'l Bur. 2005). In February 2007, ICO's launch milestone was extended to November 2007 and its operational milestone was extended to December 2007. New ICO Satellite Services G.P. Application to Extend Milestones, *Memorandum Opinion and Order*, IBFS Nos. SAT-MOD-20061109-00137, 22 FCC Rcd 2229 (Int'l Bur. 2007). ICO's launch milestone was later extended to April 15, 2008 and its operational milestone to May 15, 2008. FCC Application for Space or Earth Station: Mod or AMD, File Nos. SAT-MOD-20070806-00110, SAT-AMD-20071109-00155, granted April 2, 2008.

⁵⁵ *BAS Relocation MO&O* at ¶ 48. The *BAS Relocation MO&O* noted that the MSS entrants will be able to perform testing of their satellite systems without violating the requirement that BAS in the top 30 markets and all fixed BAS links in all markets be relocated before they may begin operations. *Id.* at ¶¶ 45-47. The Commission expected that this testing could be accomplished in markets where the BAS transition has been completed and that the potential for interference to BAS would be minimal.

⁵⁶ Final Milestone Certification and Selected Assignment Notification, New ICO Satellite Services G.P., filed May 9, 2008.

complete the transition of the 2 GHz BAS licensees.⁵⁷ On February 27, 2009, the Office of Engineering and Technology issued a Public Notice seeking comment on the Supplemental Request setting a comment date of March 9, 2009 and reply comment date of March 19, 2009.⁵⁸ In order to consider the issues raised in the Supplemental Request and the record developed in response to it, the Commission thrice waived the March 5, 2009 BAS relocation deadline without prejudice relative to the merits of the Supplemental Request.⁵⁹ The deadline is now June 10, 2009.

III. REPORT AND ORDER AND ORDER

24. The actions we take today follow from the Commission's March 2008 *BAS Relocation MO&O* and accompanying *FNPRM*. We determine that it is in the public interest to waive the deadline by which Sprint Nextel must complete relocation of the BAS to frequencies above 2025 MHz until February 8, 2010. In light of the extended relocation time of BAS operations by Sprint Nextel that will result from the waiver extension, we also address the ability of MSS to operate in the 2000-2020 MHz band. As further described below, we determine that the requirements that the MSS entrants may not begin operations until the BAS incumbents in the top 30 markets by population and all fixed BAS links in the 1990-2025 MHz band have been relocated no longer serves the original purpose in light of changed circumstances. In recognition of BAS incumbents' primary status in those markets where they have not been relocated, we also set forth provisions that will allow MSS entities to operate in those markets if, after coordination, such operations can be conducted without causing harmful interference to the nonrelocated BAS incumbents (*i.e.* to those BAS incumbents who have not yet been transitioned to the new bandplan). Finally, we determine that ICO, which has been granted authority to operate ATC in conjunction with its satellite system, should be granted a waiver of the condition that it must first make available to the public commercial satellite service throughout its satellite's coverage area.

A. Waiver of Relocation Deadline

25. In the *BAS Relocation MO&O*, the Commission held open the option of extending the deadline by which Sprint Nextel must complete the relocation of BAS incumbents upon further consideration. After careful consideration, we conclude that the public interest is served by waiving the deadline by which Sprint Nextel must complete the relocation of BAS to frequencies above 2025 MHz until February 8, 2010. As discussed below, we hold open the option of taking additional actions to promote the relocation of BAS incumbents.

26. The Supplemental Request cites numerous circumstances that the parties characterize as being beyond Sprint Nextel's and the broadcasters' control and that will prevent completion of the BAS transition before the current deadline. These circumstances include a limited number of BAS equipment manufacturers, installers, tower climbers, vendors and other resources that limit the pace at which BAS equipment can be replaced; complexities related to BAS system design and deployment; weather-related delays; bankruptcies in the broadcasting industry; and accommodations made to minimize disruption to

⁵⁷ In the September 2007 Joint Petition, the same parties who have filed the Supplemental Request had asked that the Commission waive the BAS deadline until February 2010. The Commission partially granted the Joint Petition waiver request by extending the BAS transition deadline until March 2009 and otherwise held the request in abeyance pending resolution of the issues raised in the *Further Notice. BAS Relocation MO&O* at ¶ 34 n.108.

⁵⁸ *Office of Engineering and Technology Declares Sprint Nextel, Inc. Request for a Waiver of the 2.0 GHz BAS Relocation Deadline to be a "Permit-but-Disclose" Proceeding for Ex Parte Purposes*, WT Docket No. 02-55, WT Docket No. 00-258, ET Docket No. 95-18, DA 09-468, 24 FCC Rcd 2691 (2009). Both MSS entities – ICO and TerreStar – filed responsive comments to this Public Notice and Sprint Nextel, MSTV, NAB, and SBE submitted reply comments.

⁵⁹ *Improving Public Safety Communications in the 800 MHz Band, Order*, WT Docket No. 02-55, WT Docket No. 00-258, ET Docket No. 00-258, 24 FCC Rcd 3340 (2009); *Order*, 24 FCC Rcd 5281 (2009); *Order*, FCC 09-48 (June 3, 2009).

news and sports coverage, and to clear BAS incumbents in markets that MSS entrants have identified as high-priority.⁶⁰

27. In response to the Supplemental Request, the MSS entrants express concern that an extension of the BAS relocation deadline will frustrate their planning and introduction of service, and seek to tie an extension to other matters under consideration in this proceeding such as changing the rules for when MSS can provide commercial operations and resolving questions pertaining to cost sharing among new entrants.⁶¹ For example, TerreStar states that it can accommodate extending the transition deadline as long as the requirement that BAS in markets 1-30 and all fixed BAS links be relocated before MSS can begin operations is eliminated.⁶² ICO also filed comments stating that the waiver of the transition deadline should be granted only with action on the March 2008 *Further Notice* to mitigate the harm of the extensive delays on MSS.⁶³ The filers of the Supplemental Request responded to TerreStar and ICO by arguing that neither MSS entrant seriously contests the need for additional time to complete the BAS transition and that neither MSS entrant will suffer real harm from the delay because they are not yet ready to offer services.⁶⁴

28. As the Commission stated in the *BAS Relocation MO&O*, the Commission will waive our rules if “[i]n view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome or contrary to the public interest . . .”⁶⁵ We remain convinced that the timely relocation of BAS licensees remains a necessary step for the full introduction of new services in the 1990-2025 MHz band, and we observe that Sprint Nextel remains the sole entity actively undertaking such relocations.⁶⁶ Moreover, Sprint Nextel satisfied the interim benchmark requirement set forth in the *BAS Relocation MO&O* by transitioning the markets identified as high priority by the MSS operators no later than September 30, 2008.⁶⁷ It has also met the reporting requirements imposed in the *BAS Relocation MO&O* by filing status reports every two months that provide comprehensive details on the progress of the BAS transition.⁶⁸

29. We also believe that Sprint Nextel, working with the broadcasters, has made a good faith effort to increase the pace of the BAS transition. The Commission previously stated that we would consider how successfully the Sprint Nextel *et al.* relocation plan was implemented if we consider whether and for how long we should extend a waiver of the BAS relocation process beyond March 5,

⁶⁰ *Supplemental Request* at 7-18.

⁶¹ The cost sharing rules for relocation of the BAS incumbents are addressed in the *Further Notice*.

⁶² Comments of TerreStar Networks Inc., WT Docket 02-55, WT Docket No. 00-258, ET Docket No. 00-258, filed March 9, 2009 at 8 (*TerreStar Supp. Request Comments*).

⁶³ Opposition to Supplemental Joint Request, New ICO Satellite Services G.P., WT Docket 02-55, WT Docket No. 00-258, ET Docket No. 95-18, filed March 9, 2009 at 5 (*ICO Supp. Request Comments*).

⁶⁴ Reply Comments of Sprint Nextel Corporation, the Association for Maximum Service Television, Inc., the National Association of Broadcasters, and the Society of Broadcast Engineers, WT Docket 02-55, WT Docket No. 00-258, ET Docket No. 95-18, filed March 19, 2009 at 6, 8-9 (*Sprint et al. Supp. Request Reply*).

⁶⁵ *BAS Relocation MO&O* at ¶ 30 (citing 47 C.F.R. § 1.925(b)(3)(ii) and *WAIT Radio v. FCC*, 418 F.2d 1153 (D.C. Cir. 1969)).

⁶⁶ See *BAS Relocation MO&O* at ¶ 32.

⁶⁷ *Id.* at ¶ 43; See also Sprint Nextel *ex parte* Filing, WT Docket No. 02-55, ET Docket No. 00-258, ET Docket No. 95-18, filed October 1, 2008 at Appendix C (listing transitioned markets). The Commission found that timely relocation of these markets would permit MSS operators to avoid delays in launching and testing their systems. *BAS Relocation MO&O* at ¶ 43. While ICO did launch its satellite in April 2008, TerreStar’s November 2008 operational milestone that existed when the *BAS Relocation MO&O* was adopted has been subsequently modified.

⁶⁸ *BAS Relocation MO&O* at ¶ 44.

2009.⁶⁹ We recognize that the status reports demonstrate that the BAS transition was not complete by the March 5, 2009 transition deadline and that it will not likely be complete by the end of August 2009 as had been proposed by the Sprint Nextel *et al.* plan.⁷⁰ Moreover, as the MSS entrants note, Sprint Nextel's reports show that the anticipated relocation date for many BAS markets has been delayed.⁷¹ However, the reports also reflect a steady increase in many key metrics, including that for 99 percent of the BAS stations being transitioned, all frequency relocation agreements and purchase orders have been completed.⁷² As the Commission recognized in the *BAS Relocation MO&O*, the pace of the BAS transition is constrained by the small number of manufacturers who make the BAS equipment, a shortage of qualified equipment installers and tower climbers, and coordination problems between the new radio equipment and preexisting controllers.⁷³ These challenges have been documented in both the status reports and the Supplemental Request, and are reflected in the statistics Sprint Nextel has submitted for equipment delivery and installation. We further note that those numbers (75 and 60 percent, respectively, in June 2009) have risen considerably from a year before (21 and 13 percent in April 2008),⁷⁴ reflecting a pattern of continued progress by Sprint Nextel and the broadcasters. We conclude that a fair reading of the overall record indicates that Sprint Nextel has made considerable progress in the BAS relocation process that has proven to be a more complex undertaking than any party may have initially anticipated. We shall continue to closely monitor the progress of the BAS transition. As such, we leave in place the requirement that Sprint Nextel file status reports every two months on the progress of the BAS transition until the transition is complete.⁷⁵

30. Furthermore, in the *BAS Relocation MO&O*, the Commission noted that it would "undoubtedly halt a transition that is already well under way were we to deny the Joint Petition and remove Sprint Nextel from the process."⁷⁶ Now, as we consider the Supplemental Request, this observation remains true, and no commenter has suggested an alternate plan by which BAS licensees can be relocated quicker in order to give new entrants full and complete access to the band.

31. For these reasons, we conclude that the public interest is best served by granting a waiver of the BAS transition deadline to February 8, 2010 and allowing Sprint Nextel to continue its relocation efforts.⁷⁷ In granting this extension, we acknowledge the concerns expressed by the MSS entities about being able to plan for use of the band. In the *BAS Relocation MO&O*, the Commission recognized that delays in the relocation of BAS made it even more vital to accommodate the interest in finding a means of

⁶⁹ See *BAS Relocation MO&O* at ¶ 36 (deeming the Sprint Nextel relocation plan a "useful tool").

⁷⁰ *Sprint Nextel et al. Plan* at 2. Prior to our adoption of the March 5, 2009 BAS transition deadline, Sprint Nextel *et al.* had proposed a plan by which the transition could be completed by the end of the August 2009. Sprint Nextel did not claim that the transition could be completed by March 5, 2009.

⁷¹ See *TerreStar Supp. Request Comments* at 9-10; *ICO Supp. Request Comments* at 6-7.

⁷² Sprint Nextel *ex parte* Filing, WT Docket No. 02-55, ET Docket No. 00-258, ET Docket No. 95-18, filed June 1, 2009 at Appendix A, p. 1.

⁷³ *BAS Relocation MO&O* at ¶ 31.

⁷⁴ Sprint Nextel *ex parte* Filing, WT Docket No. 02-55, ET Docket No. 00-258, ET Docket No. 95-18, filed June 1, 2009 at Appendix A, p. 1.

⁷⁵ See *BAS Relocation MO&O* at ¶ 44.

⁷⁶ *BAS Relocation MO&O* at ¶ 30.

⁷⁷ We note that this date is also well beyond the revised digital television transition date of June 12, 2009. See *BAS Relocation MO&O* at ¶ 34 (expressing concern that broadcasters were preparing for the DTV transition that was then scheduled for February 17, 2009, and stating that "[w]e believe it is prudent to set a date beyond the DTV transition date for the completion of the BAS relocation"). Because February 7, 2009 falls on a Sunday, we are waiving the BAS transition deadline until February 8, 2009 instead of February 7, 2009 as requested by Sprint Nextel *et al.*

permitting MSS operators to begin to deploy nationwide service.⁷⁸ This balancing of interests also makes it necessary to manage the interference environment during the period in which both MSS and BAS operate in the band and to minimize the time during which they must co-exist.

32. We discuss, *infra*, rule modifications that will permit MSS operators quicker access to the band and consider the ways to manage the period of joint MSS and BAS co-existence. We realize that further delays in that process frustrate our goals in this proceeding, and we fully intend to take all necessary steps to ensure that the BAS licensees, Sprint Nextel, and the MSS operators act to complete the BAS relocation process in a timely manner. As discussed above, the broadcast community has been actively involved in the relocation process, and developed the original proposal to relocate BAS licensees in conjunction with Sprint Nextel.⁷⁹ Thus, while we intend to exercise appropriate enforcement action if Sprint Nextel is not able to complete the BAS transition by February 8, 2010 for reasons it could have reasonably avoided,⁸⁰ we also believe that there should be appropriate consequences for BAS licensees for failure to complete the relocation by the new deadline. In the Further Notice adopted today, we consider further modifying the BAS relocation rules to allow new entrants to begin unencumbered operations in the band before all BAS operations are relocated. We also emphasize that, under our existing relocation rules, MSS operators have an absolute responsibility to protect incumbent BAS licensees, and that we will consider taking vigorous enforcement action against any violations of this rule. Together, in adopting these measures, we intend to provide MSS operators with the certainty that will help them plan and deploy services to the public.

33. Finally, as the bimonthly reports which Sprint Nextel is required to file indicate, there are a handful of licensees who have yet to execute frequency relocation agreements with Sprint Nextel.⁸¹ We remind BAS licensees that under the Commission's rules they have an obligation to negotiate in good faith with Sprint Nextel and the other new entrants relocation agreements for the 1990-2025 MHz band. If a party believes that another party, whether a BAS licensee or a new entrant, is not negotiating in good faith, it may petition the Commission for a declaratory ruling. The Commission will consider taking whatever action it deems reasonable under the rules to resolve disagreements between the parties so that the relocation can be completed in a timely manner.

B. Top 30 Market Rule

34. Sections 74.690(e)(1)(i) and 78.40(f)(1)(i) of the Commission's Rules require MSS operators to relocate all BAS licensees in markets 1-30 and all fixed BAS stations operating in the band on a primary basis prior to beginning operations.⁸² Because of the rule, MSS operators are not permitted to serve those markets where BAS licensees have been relocated and where the spectrum is, essentially, lying fallow as a result of Sprint Nextel's work to clear the entire 35 megahertz block of BAS spectrum at 1990-2025 MHz. When, in the *BAS Relocation FNPRM*, the Commission proposed to eliminate the top 30 market rule, the Sprint Nextel *et al.* plan's anticipated relocation of some of the top 30 markets was after the dates by which ICO and TerreStar were required as a condition of their authorizations to have

⁷⁸ *BAS Relocation MO&O* at ¶ 34. See also *id.* at ¶ 32 (also recognizing "the enormous up-front build and launch costs that make rapid initiation of income-producing service vital to the success of a satellite venture").

⁷⁹ See paragraph 10 *supra* (describing how BAS relocation obligations for Sprint Nextel established in the 800 MHz R&O were based, in large part, on a joint proposal of Sprint Nextel, the MSTV and NAB).

⁸⁰ The 800 MHz R&O provided that "if [Sprint Nextel] fails to meet [the BAS relocation deadline] for reasons that [Sprint Nextel] could reasonably have avoided, the Commission will determine whether forfeitures should be imposed and/or whether [Sprint] Nextel['s] licenses, including, but not limited to, its 1.9 GHz licenses, should be revoked." 800 MHz R&O at ¶¶ 326 & 353.

⁸¹ Sprint Nextel *ex parte* Filing, WT Docket No. 02-55, ET Docket No. 00-258, ET Docket No. 95-18, filed June 1, 2009 at Appendix D.

⁸² 47 C.F.R. §§ 74.690(e)(1)(i), 78.40(f)(1)(i).

operational satellite systems.⁸³

35. Our proposal to eliminate the rule drew mixed responses. The MSS operators support elimination of the rule, contending that the rule only serves to delay the provision of MSS services without providing any public interest benefit, and that eliminating the rule will mitigate the hardship on them of any further waiver of the BAS transition deadline.⁸⁴ The MSS operators further contend that they will be able to operate on a secondary basis in nonrelocated markets without causing interference to BAS incumbents, providing technical studies that they contend reinforce this point, and stress the importance of being able to deploy their services in a nationwide manner.

36. By contrast, MSTV and NAB contend that the MSS operators have not demonstrated that they will be able to operate in uncleared markets without causing interference and oppose permitting MSS to begin nationwide operation via elimination of the top 30 market rule.⁸⁵ MSTV further contends that, because the top 30 market rule now requires MSS operators to provide relocation compensation to stations in the top 30 markets before such a station is relocated, elimination of the rule would unfairly permit MSS entities to operate nationwide without having to first compensate nonrelocated BAS licensees in the top 30 markets.⁸⁶ Notably, however, MSTV and NAB do not object to permitting MSS operations to begin on a secondary, non-interfering basis.⁸⁷ Sprint Nextel asks that we not remove the rule until after the MSS operators commit to reimburse Sprint Nextel for its relocation expenses, claiming that the limitation on market entry is tied to the MSS entrants' obligation to pay for their share of the costs of BAS relocation.⁸⁸

37. Our analysis of the top 30 market rule must recognize how circumstances have changed since the rule was first adopted. At that time, when only MSS entrants were anticipated to occupy the band, MSS entities would have had a strong incentive to focus on the relocation of the top 30 markets and all fixed links exclusively because, once the top 30 markets and all fixed links had been relocated, MSS would have been permitted to provide service nationwide.⁸⁹ The introduction of Sprint Nextel and its terrestrial-based network into the band shifted the relocation focus from market size to market geography. This is because Sprint Nextel was not bound by the top 30 market rule and instead was free to concentrate on the relocation of those markets where it most desired to initiate operations. As a result, Sprint Nextel has not planned to clear all of the top 30 markets until the end of its relocation process. We also recognize that the MSS entrants had an opportunity to participate in the clearing of the top 30 markets and fixed links, but have not chosen to take action in that regard.⁹⁰ However, this fact must be balanced against our decisions to extend the deadline for Sprint Nextel to relocate BAS licensees long past the original September 7, 2007 date.

38. In proposing to eliminate the top 30 market rule, we noted that the delays in the relocation of BAS have increased the importance of finding opportunities that could allow MSS operators to begin to

⁸³ *BAS Relocation MO&O* at ¶ 52.

⁸⁴ *TerreStar FNPRM Comments* at 3-5; *TerreStar FNPRM Reply* at 5-6, 8-9; *ICO FNPRM Comments* at 6-8, 10; *TerreStar Supp. Request Comments* at 8; *ICO Supp. Request Comments* at 5.

⁸⁵ *MSTV/NAB FNPRM Comments* at 5, 7-9.

⁸⁶ See *MSTV ex parte* comments in ET Docket 02-55, WT Docket No. 00-258, ET Docket No. 95-18, filed April 8, 2009, at 3.

⁸⁷ *Id.* at 1; *MSTV/NAB FNPRM Comments* at 5-6.

⁸⁸ *Sprint FNPRM Comments* at 7.

⁸⁹ As noted above, our rules previously required BAS licensees in markets 31 and above that had not been relocated to cease using a portion of the band once MSS operators began service (*i.e.*, after MSS operators had relocated BAS in markets 1-30). See *supra* ¶ 8, 12.

⁹⁰ See 47 C.F.R. §§ 74.690(e)(1), 78.40(f)(1); see also *800 MHz R&O* at ¶ 257.

deploy robust commercial services. Although the January 1, 2009 date that the MSS operators had sought to begin nationwide service at the time of the *BAS Relocation MO&O* has largely been overtaken by circumstances – including the focus on market testing (for ICO) and delays in satellite launch (for TerreStar) – our decision to revise the deadline for BAS relocation to February 8, 2010 means that there still exists a period in which MSS can be expected to seek extensive use of the band before all BAS incumbents have been cleared. The top 30 market rule serves as a barrier to MSS operation, even in those areas where there are no primary BAS incumbents to protect. Elimination of the top 30 market rule would allow the benefits of MSS – such as public safety service during disasters when terrestrial communications networks may be compromised and increased competition in wireless communications through the provision of new and unique mobile services – to be provided to the public sooner rather than later.

39. In light of the changed circumstances, we conclude that the public interest is best served by eliminating the requirement, set forth in Sections 74.690(e)(1)(i) and 78.40(f)(1)(i) of the Rules, that MSS entrants must relocate all BAS licensees in markets 1-30 and all fixed stations operating in the band on a primary basis prior to beginning operations.⁹¹ We note that the rule was a component of a relocation plan that was designed to “minimize[] the amount of valuable 2 GHz spectrum that could lie fallow, unused by relocated BAS licensees and not yet occupied by MSS licensees, during the early phase of MSS growth.”⁹² Application of the top 30 market rule would now only serve to frustrate this purpose.

40. In the *BAS Relocation FNPRM*, the Commission proposed adopting a market-by-market approach in which the MSS entrants would be allowed to operate only in those markets where the BAS incumbents have been relocated.⁹³ The MSS operators generally opposed this approach, and while MSTV and NAB did not oppose market-by-market relocation, they also did not object to permitting MSS operations to begin on a secondary, non-interference basis.⁹⁴

41. We conclude that the elimination of the top 30 market rule is preferable to the market-by-market approach because there will be instances in which coordination will permit the sharing of spectrum in markets where the BAS transition has not been completed. By contrast, the market-by-market approach would preclude any shared operations in nonrelocated markets.⁹⁵

42. We also retain the rule that BAS licensees maintain primary status until they are relocated, decline relocation, or the BAS relocation rules sunset on December 13, 2013. MSS entrants assert that they are uniquely burdened by the delays that have been encountered by Sprint Nextel in relocating BAS incumbents, and ask that BAS incumbents be secondary to MSS entrants at an earlier date – March 5, 2009 (the end of the current BAS transition deadline) or September 1, 2009 (the last month BAS market transitions are scheduled under the Sprint Nextel *et al.* plan).⁹⁶ To modify this rule at this late date in the process would unfairly burden BAS licensees who have been allowed to remain in the band until relocated by new entrants or until their primary status sunsets. We see no reason to further modify this

⁹¹ We previously held in abeyance ICO’s request to waive the top 30 market rule. *BAS Relocation MO&O* at ¶ 40; ICO *ex parte* comments in ET Docket 02-55, WT Docket No. 00-258, ET Docket No. 95-18, filed Feb. 26, 2008 at 3. Because we are now eliminating the top 30 market rule, we now dismiss as moot ICO’s request to waive the top 30 market rule.

⁹² *MSS Second R&O* at ¶ 35.

⁹³ *BAS Relocation MO&O* at ¶ 56. Such use would require MSS operators to employ spotbeams or geolocation technology to assure they did not operate in nonrelocated BAS markets.

⁹⁴ *TerreStar FNPRM Comments* at 6; *ICO FNPRM Comments* at 10-11; *MSTV/NAB comments* at 5 and 10. See also *Sprint et al. Supp. Request Reply* at 27.

⁹⁵ We recognize that even under the approach we adopt, it may not be possible for the MSS entrants to operate without causing interference to the BAS incumbents in certain markets where BAS is heavily used.

⁹⁶ *ICO FNPRM Comments* at 11; *TerreStar FNPRM Comments* at 8.

important element of our existing relocation rules. Our decision to eliminate the top 30 market rule will provide MSS entrants with opportunities to begin offering service to the public, and represents a fair balancing of the interests in this proceeding. We also note that in the Further Notice we seek comment on whether we should modify the interference status of individual BAS licensees under certain circumstances.

43. We also address in this Report and Order and Order and the accompanying Further Notice, incentives designed to motivate parties to complete the BAS transition. Moreover, the number of nonrelocated BAS markets will continue to diminish as Sprint Nextel continues its relocation efforts. While we continue to hold open the option to re-evaluate our decision based on the future course of BAS relocation efforts, we do not alter the existing December 13, 2013 sunset date at this time.

44. In addition, we address concerns that our elimination of the top 30 market rule changes the rights of BAS incumbents to be relocated by MSS entrants. As the Commission has repeatedly noted throughout this proceeding, our adoption of Sprint Nextel's relocation procedures did not remove the underlying obligation of MSS entrants to relocate BAS licensees. Under the existing rules applicable to the relocation of BAS incumbents, the MSS entrants are required to relocate the incumbent BAS licensees in markets 31-100 within three years of beginning operations and the remaining BAS licensees within five years.⁹⁷ We discuss, elsewhere in this document, the modifications necessary to bring markets 1-30 under this rule. It was not our intent in proposing to eliminate the top 30 market rule to modify the long-recognized and basic obligation that new entrants have to relocate incumbent licensees, and we see no reason in doing so now. We believe this modification largely addresses the concerns raised by MSTV that elimination of the rule would unfairly permit MSS entities to operate nationwide without first compensating nonrelocated BAS licensees in the top 30 markets. We do not find it significant that BAS licensees operating in the top 30 markets may not be relocated to comparable facilities until after MSS begins operations because the BAS operations are primary and therefore will enjoy interference protection.

45. The elimination of the top 30 market rule is effective 30 days after this decision is published in the Federal Register. Thereafter, MSS entrants are able to begin operations when they are ready to do so, which could well be before the conclusion of the rulemaking proposed in the accompanying Further Notice on cost sharing requirements for the BAS relocation. We recognize that allowing the MSS entrants to operate on cleared spectrum before they have satisfied their cost sharing obligations to Sprint Nextel is a departure from prior Commission decisions on this issue. Generally, the Commission's relocation policies provide that when a new entrant relocates incumbent licensees in spectrum that will be occupied by a later new entrant, the latter new entrant must reimburse the earlier new entrant for a *pro rata* share of the costs of relocating the incumbent.⁹⁸ Usually, reimbursement is required before or shortly after the later new entrant will begin use of the cleared spectrum.⁹⁹ Nonetheless, we conclude that, given the unique circumstances in this case, our decision to allow the MSS entrants to begin operations in the near term, before they may have satisfied their cost sharing reimbursement obligations, best serves the public interest. In other cases, the relocation cost sharing requirements were able to be estimated with a reasonable amount of certainty well in advance of issuing licenses to new entrants. In this case, as discussed in more detail in the Further Notice, the circumstances surrounding the BAS relocation have significantly changed since the Commission adopted cost sharing rules in the *800 MHz R&O*, and

⁹⁷ 47 C.F.R. § 74.690(e)(5); 47 C.F.R. § 78.40(f)(5).

⁹⁸ See, for example, Amendment to the Commission's Rules Regarding a Plan for Sharing the Costs of Microwave Relocation, WT Docket No. 95-157, *First Report and Order and Further Notice of Proposed Rule Making*, 11 FCC Rcd 8825 at ¶¶ 71-78 (1996).

⁹⁹ For example, in the relocation of fixed microwave incumbents by AWS and MSS entrants, the new entrant must notify a clearinghouse prior to initiating operations. The new entrant must reimburse an earlier entrant for relocation costs within 30 days of the clearinghouse determining that cost sharing is required. See 47 C.F.R. §§ 27.1168, 27.1170, 27.1186.

uncertainty has surrounded the precise nature and extent of the MSS entrants' cost sharing obligations since that time.¹⁰⁰

46. We want to be clear, though, that our decision to allow the MSS entrants to begin operations before they may have satisfied their cost sharing obligations to Sprint Nextel in no way relieves them of these obligations.¹⁰¹ A guiding principle for relocation is that those entrants that benefit from cleared spectrum have an obligation to shoulder their portion of the costs to relocate incumbent operations. We fully intend to apply that principle here, as set forth in the Further Notice. In the context of the changed circumstances surrounding BAS relocation in the time since we adopted cost sharing rules for these entrants, the parties have raised questions about how those rules should be applied. We clarify these issues below. As we tentatively conclude in the Further Notice, the MSS entrants have a reimbursement obligation to Sprint Nextel. We propose and seek comment on clearly delineated cost sharing requirements reflecting these changed circumstances to balance the responsibilities for and benefits of relocating incumbent BAS operations among all new entrants in the band.¹⁰² We expect the MSS entrants to comply with the rules we adopt in response to the Further Notice, and we intend to enforce those rules.¹⁰³

1. MSS Operations in Markets Prior to BAS Relocation

47. Our decision to eliminate the top 30 market rule makes it vital for us to effectively manage the interference environment during the period in which both MSS operators and incumbent BAS licensees occupy the band. BAS is a critical part of the broadcasting system by which information and entertainment are provided to the American public. Our current rules provide that, during the pendency of the BAS transition, BAS incumbents are primary in the band until they are relocated, they refuse relocation, or the relocation rules sunset on December 9, 2013.¹⁰⁴ This means that MSS entrants may not cause interference to the nonrelocated BAS incumbents, and that MSS entrants must also accept interference from the nonrelocated BAS incumbents.¹⁰⁵ We note that this obligation includes interference from MSS operations in markets where BAS has been transitioned to BAS incumbents operating in adjacent markets that have not yet been transitioned. Furthermore, MSS operations in markets where BAS has been transitioned must accept interference from BAS operating in markets where the BAS

¹⁰⁰ See paragraphs 77-80, *infra*.

¹⁰¹ Sprint Nextel suggest that it is necessary to link the MSS entrant's cost sharing obligations to the top 30 market rule in order to help ensure that the MSS entrants will pay their share of the transition costs. The removal of the top 30 market rule does not by itself lead to a particular resolution of the outstanding issues relating to cost sharing among new entrants in the BAS band.

¹⁰² See paragraphs 84-86, 91 *infra*.

¹⁰³ TerreStar acknowledges that MSS entrants "are always obligated to meet any obligations placed on them by the Commission." TerreStar Networks Inc. *ex parte* letter, ET Docket 02-55, WT Docket No. 00-258, ET Docket No. 95-18, filed June 5, 2009.

¹⁰⁴ 47 C.F.R. § 74.960(b), 74.690(e)(6), 78.40(b), 78.40(f)(6); See also 47 C.F.R. § 2.105(c)(2) (setting forth the principle that secondary licensees have the responsibility to avoid causing interference to primary licensees). Sprint *et al.* implies in their comments that they believe MSS would obtain primary status with respect to BAS nationwide if the top 30 market rule is eliminated. Sprint *et al. Supp. Request Reply* at 24-25. This is incorrect. As our rules state, the BAS incumbents maintain their primary status until they are relocated, they refuse relocation, or the relocation rules sunset in December 2013. With the elimination of the top 30 market rule, MSS becomes primary with respect to BAS only in those markets where the BAS transition has been completed.

¹⁰⁵ The requirement that MSS must accept interference from and not cause interference to nonrelocated BAS applies only to BAS licensees with primary status. Certain BAS licensees, such as those associated with low power TV and translator stations, short-term BAS facilities operating under Section 74.24 of our rules, and those licensed after June 27, 2000 have secondary status. See 47 C.F.R. § 2.106 Footnote NG 156; 47 C.F.R. § 74.24(c); 47 C.F.R. § 74.602(f); MSS *Second R&O* at ¶ 59.

transition has not occurred.¹⁰⁶

48. We now consider whether, and under what circumstances, MSS operations can take place in and adjacent to BAS markets where relocation has yet to occur. In the March 2008 *Further Notice*, the Commission observed that it might be possible for MSS operations to take place prior to the relocation of all BAS incumbents through coordinated use, and sought comment on how MSS could avoid or correct interference in markets where they would operate on a secondary basis.¹⁰⁷ Both TerreStar and ICO have submitted technical studies purporting to show that they can operate in markets where BAS has not been relocated, while only rarely causing interference.¹⁰⁸ TerreStar's technical study does admit that interference to BAS incumbents using analog equipment can occur,¹⁰⁹ but it claims that computer simulations have shown that interference events will occur only every 1.06 to 2.29 years depending on which BAS channel MSS is operating.¹¹⁰ ICO's technical study also reaches the conclusion that interference will only rarely occur.¹¹¹ However, ICO's results are based on measurements included in TerreStar's technical study that have been adjusted for the expected differences between ICO's mobile terminals and TerreStar's. ICO's study also claims that because its mobile terminals will transmit in short 5 to 20 millisecond bursts, even when interference does occur it will not have a noticeable effect on the received BAS signals.¹¹² ICO did not test this theory with actual analog BAS equipment.

49. NAB and MSTV generally disagree with the MSS operators' assertions and express concern that significant interference could occur if MSS operates before BAS has been relocated.¹¹³ For example, MSTV asserts that because the exact technical configuration of ICO's system is not completely known, further technical data is necessary to assess ICO's claims. It also refutes TerreStar's study, noting that its claim that there will be little or no interference to digital BAS operations is inapplicable, given that analog equipment is predominantly used in uncleared markets.¹¹⁴ MSTV claims that TerreStar should have

¹⁰⁶ Because BAS transmitters typically use highly directional antennas, a MSS satellite may receive interference from a BAS transmitter when its antenna is pointed in the direction of a satellite. An MSS satellite will have to accept interference from a BAS transmitter operating in a market where the BAS transition has not occurred.

¹⁰⁷ *BAS Relocation MO&O* at ¶ 55.

¹⁰⁸ Predicted Impact to 2 GHz Broadcast Auxiliary Operations from Proposed Handset to Satellite Emissions, TerreStar Networks Inc., WT Docket 02-55, WT Docket No. 00-258, ET Docket No. 95-18, filed Jan. 30, 2008 (*TerreStar Technical Study*); MSS-BAS Spectrum Sharing Analysis, *ICO FNRPM Comments* at Annex A (*ICO Technical Study*). TerreStar also submitted a technical analysis for interference to BAS fixed links, which is discussed *infra*.

¹⁰⁹ "A TSN (TerreStar Networks) handset may cause interference in some situations no matter on which frequency it operates." *TerreStar Technical Study* at 18.

¹¹⁰ *TerreStar FNRPM Comments* at 4-5.

¹¹¹ While TerreStar provides no details on the assumptions it made in calculating that interference events will occur every 1.06 to 2.29 years, ICO explains the assumptions used in its calculations. For example, ICO assumes that it will have 100,000 subscribers by the end of the 2009, with 66,667 by the end of August and 10% of subscribers roaming outside their home markets at any time. ICO makes the assumptions that three BAS receiver sites per market will operate on BAS channel 2 and 15% of the time a BAS signal will be received close to the coverage threshold so that interference may occur. ICO also assumes that its subscribers will make one 0.18 millisecond transmission every 10 minutes. Based on these assumptions ICO calculates that the probability that a transmission from an ICO subscriber will occur at a signal level that could cause interference to a BAS receiver as 0.000021%. *ICO Technical Study* at 10-12.

¹¹² "By limiting uplink transmissions to 5 to 20 millisecond burst, ICO's MSS operations will not interfere with BAS reception." *ICO Technical Study* at 9.

¹¹³ *MSTV/NAB FNRPM Comments* at 7-9. See also *Sprint et al. Supp. Request Reply* at 25.

examined representative analog equipment, and considered the effect of such factors as BAS analog “split channel” techniques in heavily used markets and the use of mobile electronic newsgathering relay vans.¹¹⁵

50. We conclude that the record is insufficient to support the MSS operators’ claims that they will be able to routinely operate in nonrelocated BAS markets without causing interference. As an initial matter, these studies are, to a certain extent speculative because MSS mobile terminals are not yet available for testing.¹¹⁶ In addition, TerreStar gives no description of the computer simulations or information about the assumptions made in these simulations. We agree with TerreStar’s conclusion that interference to BAS incumbents from the MSS operations can occur, but we have no means of estimating how frequent or severe such interference will be.¹¹⁷ ICO’s filings are equally troubling, as we are unable to determine if ICO’s assumptions as to how often its mobile terminals will transmit and how many of its customers are likely to travel into areas where BAS has not been relocated are correct. Moreover, to the extent that ICO’s analysis relies on TerreStar’s claims, they incorporate some of the same shortcomings.

51. While the studies suggest that in certain circumstances, MSS operations could result in harmful interference to BAS receivers operating in nonrelocated markets, nothing in the record diminishes our tentative conclusion that there are steps MSS entrants and BAS licensees may be able to take to operate cooperatively in the same spectrum. For example, in markets where not all the BAS channels are being used, the BAS channels which overlap the spectrum used by MSS could be left vacant. In markets where some of the BAS incumbents have received digital equipment which allows them to operate with reduced bandwidth, the digital equipment could be used on the BAS channels that overlap the MSS spectrum so that the MSS entrants may operate in vacant spectrum between the digital signals. At certain times of the day the BAS channels may be lightly used, which would allow MSS to make use of the fallow spectrum. When spectrum overlapping only one of the MSS entrants’ spectrum is not being used, the two MSS entrants could share the available spectrum. Of course, we recognize that the specific measures that could allow MSS to successfully operate on a secondary basis will vary with each nonrelocated market, and in some cases it may not be feasible to implement any of the options discussed above.

52. In the *BAS Relocation FNPRM*, the Commission sought comment on how “MSS could avoid or correct interference that might occur” to BAS incumbents when operating on a secondary basis in markets where BAS has not been relocated.¹¹⁸ Based on the record before us, we conclude that interference to nonrelocated BAS incumbents cannot be avoided if MSS is allowed to conduct

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¹¹⁴ MSTV has submitted a technical analysis of TerreStar’s technical study which claims that the study is flawed because it uses bench and field test for a newer analog receiver that is more resistant to interference than receivers typically employed by BAS licensees and does not take into account that in many markets each BAS channel is used to send two video signals instead of just a single signal as assumed TerreStar technical report. *MSTV ex parte*, WT Docket 02-55, WT Docket No. 00-258, ET Docket No. 95-18, filed April 8, 2009 (*MSTV Technical Report*). TerreStar has responded to MSTV’s technical study in an *ex parte* filing that includes a technical response and a consultant’s report. *TerreStar ex parte*, WT Docket 02-55, WT Docket No. 00-258, ET Docket No. 95-18, MSTV, filed May 26, 2009 (*TerreStar May 2009 ex parte*). TerreStar’s technical response notes that an older analog BAS receiver that was tested was found to have similar interference rejection characteristics to the current generation of analog BAS receivers. *Id.* Technical Response at 4.

¹¹⁵ *MSTV Technical Report*. TerreStar’s technical consultant notes that outside of Los Angeles split-channels are only occasionally used. *TerreStar May 2009 ex parte* BTC Consultations Report at 5. Furthermore, TerreStar asserts that relay vans have been replaced by satellite ENG trucks and portable ENG cameras most likely use digital transmission techniques, which will not be impacted by interference from TerreStar equipment. *Id.*

¹¹⁶ TerreStar’s technical study used a North American Digital Cellular signal to model the MSS mobile terminal transmissions. *TerreStar Technical Study* at 4.

¹¹⁷ We also generally agree with MSTV that the TerreStar study’s conclusion regarding digital equipment are misplaced given the continued use of analog equipment in uncleared markets.

¹¹⁸ *BAS Relocation MO&O* at ¶ 55.

unrestricted operations in uncleared markets.¹¹⁹ Accordingly, we conclude that MSS entrants will only be permitted to conduct operations in nonrelocated BAS markets if such operations comply with the conditions set forth below. Our decision represents a compromise between our interests in promoting the provision of MSS services to the public, protecting important BAS operations from interference prior to their relocation, and avoiding further delays to completing the overall BAS relocation. The unexpected delays in the completion of the BAS transition, as well as the relatively short period of time before the required completion of the BAS transition, weigh against the alternative option of categorically excluding MSS operations from those markets in which BAS incumbents have not been relocated. We emphasize that MSS entrants must avoid operation of their mobile terminals where it will cause harmful interference to BAS. If harmful interference does occur to the nonrelocated BAS incumbents from the MSS entrants, the MSS entrant must take all actions to correct the interference, up to and including curtailing operation in and around the affected markets.

53. We impose the following requirements to protect the primary BAS operations: First, MSS entrants will be required to successfully coordinate any operations in nonrelocated markets with BAS incumbents in those markets prior to beginning service. Second, MSS entrants are prohibited from marketing their services to customers in markets where the BAS transition has not been completed. This restriction will further our goal of avoiding any interference that might occur because the only MSS customers who could potentially cause interference are those who reside in areas where the BAS transition has occurred who are traveling to areas where the BAS transition is not yet complete. Third, we prohibit MSS entrants from operating ATC networks in markets where the BAS transition is not complete. We note that both MSS entrants have pledged that they will not operate ATC networks in markets where the BAS has not been transitioned.¹²⁰

54. Interference may also occur to nonrelocated BAS incumbents from MSS mobile terminals operating adjacent to markets where the BAS transition has not been completed. To address this possibility, we determine that MSS mobile terminals may not operate within line-of-sight of BAS receiver sites in markets where the BAS transition has not been completed, unless such use has been coordinated between the MSS operator and BAS licensee.¹²¹ In addition, we will not allow the MSS entrants to

¹¹⁹ As TerreStar's technical study concluded "a TSN (TerreStar Network) handset may cause interference no matter on which frequency it operates, usually when the BAS link is at or close to its threshold level and the TSN handset is in the beam of the BAS receive antenna." *TerreStar Technical Study at 18*. TerreStar's technical consultant states that MSS and BAS can "co-exist without interference using simple coordination procedures that are non-intrusive or minimally intrusive on ENG operations." *TerreStar May 2009 ex parte BTC Consultations Report at 4*. It is noteworthy that the technical consultant does not say co-existence can occur absent coordination procedures.

¹²⁰ ICO indicates that it "is willing to refrain from operating ATC facilities and marketing MSS/ATC user terminals in uncleared DMAs prior to the Sprint-BAS relocation deadline." *ICO FNPRM Comments at 8*; ICO also implies that it will not market services in markets where the BAS transition has not occurred because its technical study just considers interference from roaming devices—*i.e.* mobile terminals which are operating outside of the market where the customer resides. *MSS-BAS Spectrum Sharing Analysis, ICO FNPRM Comments at Annex A, 10 (ICO Technical Study)*. "TerreStar has already indicated that it will not initiate ATC operations in any market unless BAS relocation in the market has been completed or TerreStar's ATC operations have been coordinated with the market's BAS licensees." *TerreStar FNPRM comments at 5*. However, TerreStar has more recently requested that the Commission leave open the possibility of allowing ATC operation prior to the extended BAS transition deadline upon an appropriate showing. *TerreStar Supp. Request Comments at 9 n.23*.

¹²¹ Although our rules do not require the location of BAS receiver sites to be registered with the Commission, BAS licensees may choose to place this information in the Commission's ULS database. See Wireless Telecommunications Bureau announces ULS upgrade: Licensees of Television Pick-up Stations now have the option to identify their stationary, receive-only sites on ULS to aid coordination with other services, *Public Notice, DA 08-892, 23 FCC Rcd 6521 (2008)*. BAS licensees may also notify the MSS operators of the location of BAS receiver sites in nonrelocated markets. MSS operators are responsible for preventing their mobile terminals from operating within line-of-sight of nonrelocated BAS receiver sites about which they have knowledge (either via notification by the licensee or listing in the ULS database), absent coordination. If a MSS operator is notified by a (continued....)

operate ATC equipment within line-of-sight of a BAS receiver site about which they have knowledge and for a market which has not been transitioned. MSS transponders must also accept any interference caused by BAS operations in uncleared markets.¹²²

55. While the coordination requirement places important responsibilities on the MSS entrants to show how they can operate without causing interference to BAS, we nevertheless expect the BAS incumbents to act cooperatively to accommodate good faith proposals for MSS operation. Because not all BAS receive site information is available in the Commission's licensing databases, we expect BAS licensees to disclose the locations of these sites to MSS entrants upon request in order to facilitate coordination. While we believe that there may be instances where individual BAS licensees may be able to adjust the channels or bandwidth on which they operate or make other adjustments to accommodate MSS operations, we emphasize that BAS incumbents are not expected to agree to coordination proposals that would impair their ability to meet the electronic newsgathering needs of a particular market at a particular time or that would delay the scheduled relocation of BAS. To a certain extent, we disagree with MSTV and NAB that BAS operations should never reduce bandwidth or cease channel operation, if doing so is agreed to as part of coordination.¹²³ However, we would not expect broadcasters to retune or modify equipment to accommodate MSS when that equipment is already scheduled to be replaced, unless it will not divert resources from the BAS transition. We will not permit an MSS entrant to approach the BAS incumbents in a particular market to coordinate operations until sixty days before the MSS entrant expects to provide commercial service in that market. By doing so, we strike a balance between providing the parties a reasonable time to work out an agreement and preventing disruptions to the BAS transition schedule. If coordination takes place too early, the market may have transitioned by the time the MSS entrant actually begins providing service.

56. We do not believe it is necessary to adopt special technical provisions for the protection of fixed BAS links. By eliminating the top 30 market rule, we also remove the requirement for MSS to relocate all fixed links prior to beginning operations. In the March 2008 *BAS Relocation FNPRM*, the Commission proposed eliminating the requirement that all fixed BAS links in the 1990-2025 MHz band be relocated in all markets before the MSS entrants may begin operations.¹²⁴ We conclude that our alternate proposal, to require the fixed BAS links that overlap the MSS portion of the band from 2000-2020 MHz to be relocated before the MSS entrants may begin operations, is not necessary.

57. TerreStar claims that sharing between MSS and fixed BAS links is technically feasible.¹²⁵ TerreStar has submitted a technical study showing no interference from MSS operations is predicted for a fixed studio-to-transmitter link used by KTVT in Fort Worth, Texas.¹²⁶ As TerreStar's technical study illustrates, in many instances the MSS mobile terminals may be able to operate without causing interference to fixed BAS links. We have no data, however, as to whether the particular fixed BAS link TerreStar used in its technical study is typical of the other fixed BAS links, and, consequently, cannot determine whether this prediction is valid in general. Because each fixed BAS link has different characteristics in terms of the distance covered, the power levels used, antenna gain, and terrain, we conclude that a case-by-case analysis will have to be done to determine whether the spectrum can be

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BAS incumbent that interference is occurring to a nonrelocated BAS system, the MSS operator is responsible for correcting the interference and preventing future interference.

¹²² See MSTV *ex parte* filing in WT Docket 02-55, WT Docket No. 00-258, ET Docket No. 95-18, filed April 8, 2009 at 2 (describing an interference scenario in which operators of an electronic newsgathering truck aim their transmissions in a southerly direction to connect to a receive site).

¹²³ See MSTV/NAB *FNPRM Comments* at 8.

¹²⁴ *BAS Relocation MO&O* at ¶ 49, 53.

¹²⁵ *TerreStar FNPRM Comments* at 4-5.

¹²⁶ *Id.* at Appendix.

shared.¹²⁷ Thus, while TerreStar's filing offers a model for MSS sharing, it does not follow that MSS operations will always be able to co-exist with nonrelocated fixed BAS operations.

58. Accordingly, we determine that an MSS entrant will be required to coordinate with nonrelocated fixed BAS links which overlap the spectrum it will be using.¹²⁸ Through coordination, the MSS entrant and the BAS licensee may determine by mutual agreement that harmful interference to the BAS fixed link will not occur. In that case the MSS entrant will be able to operate in that market. In other instances, the fixed BAS link may not use the entire spectrum overlapping the MSS spectrum, which would allow the MSS entrant to operate in the remaining portion of the band without causing interference to the BAS links.¹²⁹

59. Nevertheless, it may not be possible in some cases for the MSS entrant to operate without causing interference to the fixed BAS link. In these situations, the MSS entrant will have to relocate the fixed BAS link before it may operate in that market. We note that typical fixed BAS link applications involve continuous use for critical purposes by the BAS licensees, such as links between a television studio and a transmitter or between a parent station and a translator station. Unlike mobile BAS applications, fixed BAS equipment is often not frequency-agile. This means that BAS licensees cannot readily re-tune to other BAS frequencies as a means of avoiding potential interference from MSS operations. While the nature of fixed BAS operations may make it more likely that they will have to be relocated than mobile BAS equipment, any relocations should not be particularly burdensome for MSS operators because the number of fixed BAS links in this portion of the band is relatively small.¹³⁰

2. ATC Operations

60. ICO has been granted authority to operate ATC in conjunction with its satellite system conditioned on its commercial satellite service being available to the public throughout its satellite's coverage area, and subject to FCC action concerning ICO's ongoing dispute with Sprint Nextel over

¹²⁷ This analysis can be made in accordance with ITU-R recommendation M.1469.1 "Methodology for evaluating potential for interference from time division multiple access/frequency division multiple access (TDMA/FDMA) mobile-satellite service (MSS)(Earth-to-space) transmissions into line-of-sight fixed service receivers in the 2 GHz range."

¹²⁸ For example, ICO, as the first MSS entrant with an operational satellite, has chosen the 2010-2020 MHz portion of the band for its operations. See Final Milestone Certification and Selected Assignment Notification, New ICO Satellite Services G.P., filed May 9, 2008. As a result, ICO will have to coordinate with fixed BAS links which overlap the 2010-2020 MHz band before ICO may operate MSS mobile terminals in a market where those BAS links are located. MSS operators are allowed to operate in the 2000-2020 MHz band outside of their assigned spectrum on a secondary basis. See Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band, *Report and Order*, IB Docket 99-81, 15 FCC Rcd 16127 ¶ 19 (2000). A MSS operator may not operate elsewhere in the 2000-2020 MHz band, where the fixed BAS links have not been relocated, without first coordinating with the BAS licensee. For example, ICO may not operate in the 2000-2010 MHz portion of the band on a secondary basis without coordinating with fixed BAS links that have not yet been relocated from that portion of the band.

¹²⁹ MSS entrants will still be responsible for any interference caused to fixed BAS links in the entire 1990-2025 MHz band. Consequently, the MSS entrants will need to coordinate with (and, in some cases, relocate) fixed BAS links in the rest of the band if MSS operations will result in harmful interference to those BAS licensees.

¹³⁰ According to the Commission's records, there are 1128 fixed BAS links in the 1990-2110 MHz BAS band. Of these links, 341 overlap the 2000-2020 MHz portion of the band where MSS will operate. According to MSTV/NAB, replacement equipment should be readily available and not subject to the equipment production delays associated with the larger BAS transition because the fixed BAS links operate as fixed point-to-point microwave links rather than the mobile ENG equipment used by the other BAS licensees. *MSTV/NAB FNPRM Comments* at 13.

reimbursement for Sprint Nextel's cost in relocating the BAS incumbents in the band.¹³¹ As described above, while we are eliminating the top 30 market rule and permitting ICO to begin operations, ICO may not market its services to customers in markets where the BAS transition has not been completed. Consequently, ICO's commercial satellite service will not be commercially available throughout its coverage area until the BAS transition is complete and, as a result, ICO would not meet the "commercial availability" gating requirement for offering ATC.¹³²

61. Previously, ICO had requested waiver of the commercial availability requirement, if necessary, to allow it to commence ATC operation at the same time and in the same markets in which it can provide satellite service, even if it is unable to provide satellite service nationwide at that point.¹³³ We hereby grant ICO a limited waiver of the commercial availability requirement, pending completion of the BAS transition. Once ICO begins to commercially offer satellite service in a market in which the BAS transition has been completed, ICO will be permitted to operate ATC in that market.¹³⁴ Once the BAS transition has been completed, ICO may operate ATC service throughout its coverage area, provided that it is also offering commercial satellite service throughout its coverage area.¹³⁵

62. We take this action only because of the unique situation of the BAS transition. The delays in the BAS transition preclude ICO from making satellite service commercially available throughout its coverage area – *i.e.* all of the United States, Puerto Rico, and the U.S. Virgin Islands. Absent a temporary waiver of the commercial availability requirement, ICO would likely have to wait until the end of the BAS transition to offer ATC capabilities – even though there will be many markets in which there will be no incumbent BAS operations and where it will be providing satellite service. Permitting ICO to operate ATC only in those cleared BAS markets in which it offers commercial satellite service allows us to recognize the changed circumstances regarding the BAS transition while still ensuring that ATC will only be deployed where there is underlying satellite service.¹³⁶

¹³¹ See *infra* ¶ 14. The Further Notice portion of this action addresses cost sharing between MSS and Sprint Nextel. Sprint Nextel filed an Application for Review of the order by the Commission's International Bureau granting authority to ICO to offer ATC. Application for Review of Sprint Nextel Corp., IBFS File No. SES-LIC-20071203-01646, SES-AMD-20080118-00075, SES-AMD-20080219-00172, filed Feb. 17, 2008. According to Sprint Nextel, the Commission's rules and precedent unambiguously require ATC applicants to satisfy the satellite coverage and commercial availability requirements before receiving ATC operating authority. As discussed below, we find that permitting ICO to commence ATC service as BAS is relocated in each market would serve the public interest. Therefore, we also dismiss Sprint Nextel's Application for Review.

¹³² 47 C.F.R. § 25.149(b)(3). ICO's coverage area is all of the United States, Puerto Rico, and the U.S. Virgin Islands. 47 C.F.R. § 25.149(b)(1)(i).

¹³³ Consolidated Opposition and Response of New ICO Satellite Services G.P., IBFS File No. SES-LIC-20071203-01646, SES-AMD-20080118-00075, SES-AMD-20080219-00172, filed April 17, 2008 at 5.

¹³⁴ Of course, ICO must satisfy the other ATC gating criteria such as maintaining a spare satellite within one year of commencing operations and offering an integrated service of MSS satellite and MSS ATC. 47 C.F.R. §§ 25.149(b)(2)(ii), 25.149(b)(4). The MSS entrants must also satisfy the ATC gating criteria for the 2180-2200 MHz band.

¹³⁵ We are waiving the commercial availability requirement only until the BAS transition is completed. Once the BAS transition has been completed, ICO will have to satisfy the commercial availability requirement in order to expand ATC service.

¹³⁶ We have not yet acted on TerreStar's ATC authorization request. We hereby delegate authority to the International Bureau to grant a similar waiver in connection with TerreStar's proposed ATC operations, should such a waiver be necessary. As discussed in note 131, *supra*, we dismiss the Application for Review that Sprint Nextel filed regarding the order by the Commission's International Bureau granting ATC authority to ICO. The Application for Review is no longer relevant now that we have waived the commercial availability requirement for ICO.

IV. FURTHER NOTICE OF PROPOSED RULEMAKING

63. In this Further Notice of Proposed Rulemaking (Further Notice), we propose to modify our cost sharing requirements for the 2 GHz BAS band because the circumstances surrounding the BAS transition are very different than what was expected when the cost sharing requirements were adopted. Sprint Nextel has asked us to issue a declaratory ruling regarding the cost sharing obligations between itself and the MSS and AWS-2 entrants in the band, but we decline to do so at this time.¹³⁷ Instead, as we explain below, we believe that the best course of action is to propose new requirements that will address the ambiguity of applying the literal language of the current requirements to the changed circumstances, as well as balance the responsibilities for and benefits of relocating incumbent BAS operations among all new entrants in the band based on the Commission's relocation policies set forth in the *Emerging Technologies* proceeding.¹³⁸

64. In the Report and Order and Order, we allowed MSS entrants to operate in markets where the BAS incumbents have not been relocated only if they successfully coordinate operations with the BAS incumbents. In this Further Notice we seek comment on whether MSS can operate on an unrestricted and secondary basis in nonrelocated BAS markets.

65. In this Further Notice, we also propose to modify the current rules regarding the MSS entrants' obligation to relocate the BAS incumbents to take into account our decision in the Report and Order and Order herein to eliminate the top 30 market rule. Under the current rules, after the top 30 markets are relocated, the MSS entrants are required to complete relocation of the BAS incumbents in markets 31 and above within either three or five years of beginning operations, depending on the size of the BAS market. We propose to maintain this independent obligation on MSS entrants to relocate BAS incumbents in all markets. The Further Notice also addresses the independent obligation of AWS entrants to relocate BAS incumbents in the band.

66. Finally, we also seek comment on whether we should further modify the BAS relocation rules to allow new entrants to begin unencumbered operations in the band before all BAS operations are relocated. The BAS transition is taking longer than initially anticipated and delaying the introduction of new services in the band. We seek comment on incentives to encourage BAS licensees to complete the relocation process promptly and without unnecessary delay.

A. Cost Sharing

67. *Background.* In 2003, when fifteen megahertz of spectrum in the 1990-2000 MHz and 2020-2025 MHz bands was reallocated from MSS to Fixed and Mobile services to be used for new terrestrial services, *i.e.*, AWS-2, the Commission decided that responsibility for BAS relocation would be shared between the MSS entrants and the other new entrants to the band.¹³⁹ In 2004, Sprint Nextel was assigned five megahertz of this spectrum in the 1990-1995 MHz band (as well as the paired 1910-1915 MHz band) in exchange for giving up spectrum it held in the 800 MHz band. Sprint Nextel also was given the obligation to relocate the BAS incumbents from the entire 35 megahertz of spectrum in the 1990-2025 MHz band, as well as the realignment of the 800 MHz band to resolve ongoing interference between public safety and commercial operations in that band. To ensure that Sprint Nextel did not receive an undeserved windfall by receiving the 1.9 GHz spectrum, Sprint Nextel was required to make an "anti-windfall" payment to the U.S. Treasury if the fair value of the spectrum it received, as determined by the Commission (\$4.86 billion), exceeded the total of (i) the value the Commission attributed to the 800 MHz

¹³⁷ Letter from Sprint Nextel, WT Docket No. 02-55, WT Docket No. 00-258, ET Docket No. 95-18, filed October 8, 2008, 13.

¹³⁸ See *supra* note 4.

¹³⁹ *AWS Third R&O* at ¶ 37.