

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

In the Matter of	)	
	)	
Fixed and Mobile Services in the Mobile Satellite	)	ET Docket No. 10-142
Service Bands at 1525-1559 MHz and 1626.5-	)	
1660.5 MHz, 1610-1626.5 MHz and 2483.5-2500	)	
MHz, and 2000-2020 MHz and 2180-2200 MHz	)	

**REPORT AND ORDER**

**Adopted: April 5, 2011**

**Released: April 6, 2011**

By the Commission:

**I. INTRODUCTION**

1. In this Report and Order, we take steps to make additional spectrum available for new investment in mobile broadband networks while also ensuring that the United States maintains robust mobile satellite service capabilities. In contemplation of Mobile Satellite Service (MSS) spectrum being used for terrestrial wireless services, we also extend the Commission's secondary markets leasing rules to any MSS spectrum used for terrestrial services pursuant to the Commission's Ancillary Terrestrial Component (ATC) rules. The *National Broadband Plan* recommended that 90 megahertz of spectrum allocated to MSS could be made available for terrestrial mobile broadband use, while preserving sufficient MSS capability to serve rural areas, public safety, and other important national purposes.<sup>1</sup>

2. In this Report and Order, we act on the proposals contained in our July 15, 2010, *MSS NPRM*, which built on the recommendations of the *National Broadband Plan*.<sup>2</sup>

- First, we add co-primary Fixed and Mobile allocations to the MSS 2 GHz band, consistent with the International Table of Allocations. This action will lay the groundwork for more flexible use of the band, including for terrestrial broadband services, in the future.
- Second, in order to create greater predictability and regulatory parity with bands licensed for terrestrial mobile broadband service, we extend the Commission's existing secondary market "spectrum manager" spectrum leasing policies, procedures, and rules that

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<sup>1</sup> Connecting America: The National Broadband Plan, Recommendation 5.8.4, p. 87 (2010) (*National Broadband Plan*). The 90 megahertz figure consists of 40 megahertz of the 2 GHz band, 40 megahertz of the L-band, and 10 megahertz of the Big LEO band.

<sup>2</sup> Fixed and Mobile Services in the Mobile Satellite Service Bands at 1525-1559 MHz and 1626.5-1660.5 MHz, 1610-1626.5 MHz and 2483.5-2500 MHz, and 2000-2020 MHz and 2180-2200 MHz, *Notice of Proposed Rulemaking and Notice of Inquiry*, ET Docket No. 10-142, 25 FCC Rcd 9481, 9482, at ¶ 2 (2010) (respectively, *MSS NPRM* and *MSS NOI*). In response to this proceeding, we received twenty-eight (28) comments and ten (10) reply comments. For a list of all parties who filed comments or reply comments, see Appendix B. We intend to address the issues raised in the *MSS NOI* in a subsequent item. See *infra* para. 13.

currently apply to wireless terrestrial services to the use of MSS/ATC spectrum for the provision of terrestrial services.

## II. BACKGROUND

3. *Mobile Satellite Service Spectrum Allocation.* MSS is a radiocommunications service involving transmission between mobile earth stations and one or more space stations.<sup>3</sup> As we discussed in the *MSS NPRM*, three MSS frequency bands are capable of supporting broadband service: the 2 GHz band (“S-band”) from 2000-2020 MHz and 2180-2200 MHz, the Big LEO Band from 1610-1626.5 MHz and 2483.5-2500 MHz, and the L-band from 1525-1559 MHz and 1626.5-1660.5 MHz.<sup>4</sup> Although the International Table of Allocations includes a primary Fixed and Mobile services allocation along with the primary Mobile-Satellite allocation in the S-band,<sup>5</sup> such co-allocations do not exist in the U.S. Table. The Big LEO and L-bands are not allocated for Fixed and Mobile services either in the United States or on an international basis.

4. In addition, as noted in the *MSS NOI*, MSS has the capability to serve important needs, such as rural access and disaster recovery.<sup>6</sup> MSS has the ability to provide communications to mobile user terminals anywhere in the United States, including in remote areas where people are without basic telecommunications services. MSS is particularly well suited for meeting the needs of the transportation, petroleum, and other vital industries. MSS operators have the ability to operate when existing terrestrial infrastructure is non-existent or has been degraded or destroyed and therefore can meet public safety and emergency communication needs in times of national crises and natural disasters.<sup>7</sup> For example, MSS satellite networks were utilized in the aftermath of the terrorist attacks of September 11, 2001, and during the hurricane season of 2005. MSS units provide interoperable connections between emergency responders and other communications networks, and can even link U.S. emergency response providers with counterparts in neighboring countries.

5. *Terrestrial Use of MSS Spectrum.* At present, use of these MSS bands for terrestrial mobile service is permitted only under the Commission’s ATC rules in association with the existing satellite system authority. The Commission adopted the rules for the licensing and operation of ATC facilities by MSS operators in these bands in 2003.<sup>8</sup> ATC consists of terrestrial base stations and mobile

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<sup>3</sup> See 47 C.F.R. § 2.1(c).

<sup>4</sup> See generally *MSS NPRM*, 25 FCC Rcd at 9482-85, 9486-87, ¶¶ 4-8, 10-12 (2010) (discussing the allocation and history of these three MSS bands). The MSS Little LEO band (137-138 MHz, 148-150.05 MHz, and 400.15-401 MHz), see 47 C.F.R. § 25.202(a)(3), was excluded from the *MSS NPRM* because that band is unsuitable for the provision of terrestrial broadband service. *Id.* at 9482, ¶ 4 n.5.

<sup>5</sup> Currently, the 1980-2010 MHz band is allocated to Fixed, Mobile, and Mobile-Satellite (Earth-to-space) on a primary basis in the International Table for all regions and the 2170-2200 MHz band is allocated to Fixed, Mobile, and Mobile-Satellite (space-to-Earth) on a primary basis in the international table for all regions. The 2010-2025 MHz band is allocated to the Fixed, Mobile, and Mobile-Satellite (Earth-to-space) services on a primary basis in Region 2 (North and South America and the Caribbean) and to Fixed and Mobile services on a primary basis in other regions. 47 C.F.R. § 2.106.

<sup>6</sup> *MSS NOI*, 25 FCC Rcd at 9482, ¶ 3.

<sup>7</sup> See, e.g., Use of Returned Spectrum in the 2 GHz Mobile Satellite Service Frequency Bands, IB Docket Nos. 05-220 and 05-221, *Order*, 20 FCC Rcd 19696, 19708-09, ¶ 28 (2005), *recons. pending*.

<sup>8</sup> 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*, 18 FCC Rcd 1962 (2003) (*ATC Report and Order*), modified by *Order on Reconsideration*, 18 FCC Rcd 13590 (2003), reconsidered in part in *Memorandum Opinion and Order and Second Order on Reconsideration*, 20 FCC Rcd 4616 (2005) (*ATC Second Reconsideration Order*), further reconsideration pending.

terminals that re-use frequencies assigned for MSS operations. In the *MSS NPRM*, we noted that technological developments involving the use of MSS/ATC spectrum could soon lead to the provision of mobile broadband services similar to those provided by terrestrial mobile providers. In particular, we observed that SkyTerra (now LightSquared) plans to construct an integrated national satellite/terrestrial mobile broadband network, which would make use of both MSS spectrum and terrestrial spectrum that it has already leased in the secondary market, and that the services it would offer have the potential to expand services offered in the overall market of mobile terrestrial wireless services and to enhance competition in this larger mobile marketplace.<sup>9</sup> In addition to LightSquared, three other MSS licensees have received ATC authority, although none of these currently has commercial terrestrial ATC stations in operation.<sup>10</sup>

6. *Secondary Market Policies and MSS Spectrum.* Currently, the Commission's secondary markets spectrum leasing framework, which applies to terrestrial Wireless Radio Services licenses, does not extend to ATC uses of MSS spectrum. In the *Secondary Markets First Report and Order* adopted in 2003, the Commission established policies and rules by which terrestrially-based Wireless Radio Service licensees could lease some or all of the spectrum usage rights associated with their licenses to third party spectrum lessees, which could then provide wireless services consistent with the underlying license authorization.<sup>11</sup> The Commission provided for two different types of spectrum leasing arrangements for Wireless Radio Services: "spectrum manager" leasing arrangements and "*de facto* transfer" leasing arrangements.<sup>12</sup> In establishing these secondary market policies, the Commission sought to promote more efficient, innovative, and dynamic use of the spectrum, expand the scope of available wireless services and devices, enhance economic opportunities for accessing spectrum, promote competition among terrestrial wireless service providers, and eliminate regulatory uncertainty surrounding terrestrial spectrum leasing arrangements.<sup>13</sup> At that time, however, the Commission decided not to extend these

<sup>9</sup> *MSS NPRM*, 25 FCC Rcd at 9484-85, 9490-91, ¶¶ 7, 21-22.

<sup>10</sup> *Id.* at 9484-85, ¶ 7. We note that Globalstar's ATC authority has been suspended for failure to come into compliance with the ATC "gating criteria" as required pursuant to the temporary waiver granted to Globalstar in 2008. See Globalstar Licensee LLC Application for Modification of License to Extend Dates for Coming into Compliance with Ancillary Terrestrial Component Rules and Open Range Request for Special Temporary Authority, File No. SAT-MOD-20091214-00152, Call Sign: S2115; File No. SAT-STA-20100625-00147, *Order*, 25 FCC Rcd 13114-13115, 13122, at ¶¶ 1, 18 (rel. IB, WTB, OET Sept. 14, 2010).

<sup>11</sup> Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, WT Docket No. 00-230, *Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 20604, 20609, 20610-13, 20648-49, at ¶¶ 8-9, 12-13, 91-92 (2003) (*Secondary Markets First Report and Order*), *Erratum*, 18 FCC Rcd 24817 (2003). Wireless Radio Services do not include satellite services. 47 C.F.R. § 1.907. Under these secondary market policies and rules, the service rules and policies applicable to the licensee under its license authorization – including all technical, interference, and operational rules – apply to the spectrum lessee as well. *Secondary Markets First Report and Order*, 18 FCC Rcd at 20648-49, ¶¶ 91-92; see 47 C.F.R. §§ 1.9020(c)-(d), 1.9030(c)-(d), 1.9035(c)-(d). The rules and procedures for spectrum leasing arrangements are set forth in Part 1, Subpart X of the Commission's rules. 47 C.F.R. §§ 1.9001 *et seq.*

<sup>12</sup> "Spectrum manager" leasing arrangements require the licensee to maintain an active role in ensuring compliance with applicable Commission policies and rules but do not involve a transfer of *de facto* control under Section 310(d) and so do not require Commission approval, while "*de facto* transfer" leasing arrangements involve a transfer of *de facto* control and require Commission approval. See generally *Secondary Markets First Report and Order*, 18 FCC Rcd at 20610-13, 20635-38, 20649-71, ¶¶ 12-13, 64-70, 94-159.

<sup>13</sup> *Id.* at 20607, ¶ 2. These secondary markets policies and rules were designed to ensure that the spectrum leasing arrangements would be consistent with statutory requirements, including the requirements of Section 310(d) with respect to transfers of spectrum rights to third parties. *Id.* at 20626-42, ¶¶ 46-81 (revising the Commission's standard for determining whether spectrum leasing arrangements constitute a transfer of *de facto* control under Section 310(d) in the context of the Wireless Radio Services); see also 47 C.F.R. § 1.9010. They also provide the Commission the opportunity to evaluate, in a streamlined process, the various public interest considerations that (continued....)

spectrum leasing policies and rules to any satellite services, including MSS.<sup>14</sup> In particular, the Commission recognized that there already was a well-established set of policies and rules in effect for satellite-capacity transponder leasing, the kinds of leasing arrangements that were occurring in the context of satellite services.<sup>15</sup> Subsequently, the Commission extended the leasing framework to additional Wireless Radio Services and to Public Safety services,<sup>16</sup> as well as to other terrestrial spectrum bands that became available,<sup>17</sup> but not to MSS/ATC spectrum.

7. More recently, however, as MSS/ATC services have begun to develop, the Commission has drawn guidance from the Wireless Radio Services secondary market leasing policies. In its 2008 *Globalstar Modification Order*, the Commission determined that its ATC policies specifically contemplated that MSS licensees could lease access to MSS/ATC spectrum to third-party terrestrial providers so long as the requisite ATC gating requirements are met.<sup>18</sup> Furthermore, the Commission found that the particular MSS/ATC spectrum leasing arrangement that MSS licensee Globalstar and terrestrial provider Open Range had entered—which the parties had directly modeled on the requirements for “spectrum manager” leasing arrangements already available to terrestrial wireless services—was consistent with Commission policy, including the statutory requirement relating to transfers of control under Section 310(d) that applied to Wireless Radio Services under the secondary market policies.<sup>19</sup>

(Continued from previous page)

might arise. *Secondary Markets First Report and Order*, 18 FCC Rcd at 20608, 20648-49, 20659-60, 20668-71, 20677, ¶¶ 4, 91-92, 123-125, 150-159, 180.

<sup>14</sup> See *Secondary Markets First Report and Order*, 18 FCC Rcd at 20685-87, ¶¶ 204-212.

<sup>15</sup> *Id.* at 20686, ¶ 209. Satellite-capacity transponder leasing arrangements differ from spectrum leasing arrangements. Among other things, satellite-capacity transponder leasing does not involve the leasing of spectrum. See generally *Establishment of Domestic Communication-Satellite Facilities by Nongovernmental Entities*, Docket No. 16495, *Report and Order*, 22 FCC 2d 86 (1970); *Domestic Fixed-Satellite Transponder Sales*, CC Docket No. 82-45, *Memorandum Opinion, Order and Authorization*, 90 FCC 2d 1238 (1982), *aff'd sub nom. World Communications, Inc. v. FCC*, 735 F.2d 1465 (D.C. Cir. 1984); *Amendment of the Commission's Regulatory Policies Governing Domestic Fixed Satellites and Separate International Satellite Systems and DBSC Petition for Declaratory Rulemaking Regarding the Use of Transponders to provide International DBS Service*, IB Docket No. 95-41, *Report and Order*, 11 FCC Rcd 2429 (1996).

<sup>16</sup> *Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets*, WT Docket No. 00-230, *Second Report and Order, Order on Reconsideration, and Second Further Notice of Proposed Rulemaking*, 19 FCC Rcd 17503, 17528-33, at ¶¶ 51-60 (2004) (*Secondary Markets Second Report and Order*). The Commission further streamlined the processing of spectrum leasing arrangements by establishing immediate processing and/or approval procedures for categories of terrestrial spectrum leasing arrangements where potential public interest concerns (such as concerns relating to competition or foreign ownership) are not raised. *Id.* at 17506-07, 17509-28, ¶¶ 4, 10-50.

<sup>17</sup> See *Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands*, WT Docket No. 02-353, *Report and Order*, 18 FCC Rcd 25162 (2003); *Order on Reconsideration*, 20 FCC Rcd 14058 (2005); *Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, WT Docket Nos. 03-66, 03-67, 02-68, 00-230, MM Docket No. 97-217, *Report and Order and Further Notice of Proposed Rulemaking*, 19 FCC Rcd 14165, 14232-34, at ¶¶ 177-181 (2004).

<sup>18</sup> *Globalstar Licensee LLC Application for Modification of License for Operation of Ancillary Terrestrial Component Facilities*, File No. SAT-MOD-20080516-00106, *Order and Authorization*, 23 FCC Rcd 15975, 15986-87, at ¶ 25 (2008) (*Globalstar Waiver Order*), petition for reconsideration pending, appeal pending sub nom. *Iridium Satellite LLC v. FCC*, U.S. Court of Appeals (D.C. Circuit) No. 08-1374. An MSS operator is required to satisfy certain “gating criteria” in order to obtain ATC authority. See *infra* para. 16-17.

<sup>19</sup> Specifically, the Commission found that the leasing arrangement was consistent with a “spectrum manager” leasing arrangement under its spectrum leasing policies for Wireless Radio Services. As such, the spectrum lease did not involve a transfer of *de facto* control under Section 310(d), and no prior Commission approval was required. *Globalstar Waiver Order*, 23 FCC Rcd at 15986-88, ¶¶ 25-26. Furthermore, the Commission found that the parties’ (continued....)

Thus, even though the Commission did not adopt the terrestrial Wireless Radio Services spectrum leasing policies and rules for MSS/ATC spectrum leasing arrangements in a rulemaking context, it nonetheless applied the statutory interpretation relating to those policies and rules to the particular lease of MSS spectrum associated with Globalstar's ATC authorization.<sup>20</sup>

### III. DISCUSSION

#### A. Co-Primary Allocation of the MSS 2 GHz Band for Terrestrial and Fixed Services

8. As proposed in the *MSS NPRM*, we add Fixed and Mobile allocations to the 2000-2020 MHz and 2180-2200 MHz band.<sup>21</sup> These allocations will be co-primary with the existing Mobile Satellite allocation. By adding these allocations to the band, we will be in a position to provide greater flexibility for use of this spectrum in the future.<sup>22</sup> In addition, this change in allocation will bring our allocations for the band into harmony with the International Table of Allocations.<sup>23</sup>

9. Our proposal to add Fixed and Mobile allocations to the 2 GHz MSS band received wide support from both satellite and terrestrial wireless licensees who addressed the matter.<sup>24</sup> Only Boeing opposed the proposal. Boeing argues that adding this allocation will undermine the ability of 2 GHz MSS licensees to provide service in rural areas, provide valuable service to public safety, and assist in disaster recovery.<sup>25</sup> Boeing also points out that keeping MSS primary in the 2 GHz MSS band promotes the goal of international harmonization with respect to satellite services. Boeing also claims that MSS networks provide the only means to create a next generation air traffic management (ATM) communication, navigation, and surveillance infrastructure. Boeing explains that it obtained a 2 GHz MSS license in 2001 with a goal of developing such a system but that economic conditions and other factors thwarted the plan.<sup>26</sup> Boeing still believes that development of an ATM system is critical to the future of aviation.

10. We agree that MSS networks are a necessary and critical part of this nation's communications infrastructure, and serve an important role in meeting the needs of rural areas, the public safety community, and disaster recovery,<sup>27</sup> but conclude that these needs can continue to be satisfied (Continued from previous page)

notification to the Commission of the proposed spectrum leasing arrangement before operations commenced – which provided detailed information and various certifications about the lease as well as the parties' respective responsibilities – was consistent with the Commission's spectrum leasing policies for Wireless Radio Services, which requires that spectrum leasing parties provide notification to the Commission, including certain specified information about the arrangement, in advance of commencing operations under the lease. *Id.* at 15988, ¶ 27.

<sup>20</sup> *Id.* at 15985-88, ¶¶ 24-27. The Commission underscored that Globalstar, as the MSS licensee, was obligated to act as a spectrum manager to exercise effective working control of the leased spectrum and maintain ongoing responsibility for ensuring compliance with applicable Commission policies during the term of the spectrum leasing arrangement. *Id.* at 15985, ¶ 24.

<sup>21</sup> *MSS NPRM*, 25 FCC Rcd at 9486, ¶ 10. We take no action on the proposal in the *MSS NPRM* that, in the event that a 2 GHz MSS license is returned or cancelled, the spectrum covered by the license should not be assigned to the remaining MSS licensee or made available to a new MSS licensee.

<sup>22</sup> *Id.* at 9486, ¶¶ 9-10.

<sup>23</sup> *See supra* para. 3.

<sup>24</sup> CTIA Comments at 10; CTIA Reply Comments at 5-6; AT&T Comments at 5; Verizon Wireless Comments at 4; T-Mobile Comments at 2-3; Cricket Comments at 2, 4; United States Cellular Comments at 2-3; CDMA Development Group Comments at 3-4; Telecommunications Industry Association Comments at 2, 5; Echostar Comments at 4; TerreStar Comments at 4; DBSD Comments at 12; LightSquared Comments at 11. *See infra* n.2.

<sup>25</sup> Boeing Reply Comments at 2.

<sup>26</sup> *Id.* at 4.

<sup>27</sup> *See supra* para. 4.

under the rules we adopt. MSS remains co-primary in the 2 GHz MSS band, which is consistent with international allocations. As we stated in the *MSS NPRM*, the addition of Fixed and Mobile allocations to the 2 GHz MSS band is merely a first step toward providing flexibility to allow greater use of the band for mobile broadband.<sup>28</sup> The existing service rules that permit MSS and ATC operation in the band will not be altered solely by the addition of Fixed and Mobile allocations to the band.<sup>29</sup> Both of the MSS licensees in the band will continue to operate under the terms of their existing licenses and must comply with all of the Commission's satellite and ATC rules.<sup>30</sup> Furthermore, we are not altering the allocation for the Big LEO band or the L-band.

11. As to the development of an ATM system, we express no opinion as to the need for such a system, whether it should be satellite-based, or whether the 2 GHz band is a suitable location for it. As a practical matter, we note that Boeing has returned its 2 GHz MSS license. At the same time, there is evidence of exploding demand for spectrum for mobile broadband networks.<sup>31</sup> Given all of the foregoing, we believe that adding Fixed and Mobile allocations to the 2 GHz MSS band will provide additional flexibility to meet this demand in the future and therefore is in the public interest.

12. We also modify three footnotes to the U.S. Table to be consistent with this change in allocation.<sup>32</sup> Footnote US380 permits MSS operators to operate ATC in conjunction with MSS networks despite the fact that these bands have not been allocated for Fixed and Mobile uses.<sup>33</sup> Because we have now added Fixed and Mobile allocations to the 2000-2020 MHz and 2180-2200 MHz band, US380 is no longer needed for this band. We amend footnote US380 to remove this band while keeping US380 in place for the MSS Big LEO and L-bands. Two footnotes, NG156 and NG168 permit certain Broadcast Auxiliary Service (BAS) and Fixed Service (FS) licensees, respectively, to continue to operate on a primary basis until December 9, 2013 (the sunset date for the band).<sup>34</sup> Because the relocation of the BAS incumbents out of the 2000-2020 MHz band has been completed, footnote NG156 which addresses the status of the BAS incumbents is no longer needed.<sup>35</sup> Therefore, we remove footnote NG156 from the U.S. Allocation Table. We amend footnote NG168 to clarify that existing Fixed and Mobile operations in the 2180-2200 MHz band (*i.e.* the pre-existing FS licensees) shall become secondary after the band sunset date while ATC operations by MSS will continue to be permitted on a primary basis after the sunset date.

13. In sum, we find that adding co-primary Fixed and Mobile allocations along with the MSS allocation in the 2 GHz band serves the public interest. Our actions bring the allocations into harmony

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<sup>28</sup> *MSS NPRM*, 25 FCC Rcd at 9487, ¶ 13.

<sup>29</sup> In response to the *MSS NOI* that accompanied the *MSS NPRM*, a number of parties suggested ways in which we could modify the ATC rules. In this *Report and Order* we address only those proposals made in the *MSS NPRM*. We intend to address issues raised in response to the *MSS NOI* separately. *See infra* para. 13.

<sup>30</sup> We reiterate that fixed and mobile stations operating in the 2 GHz band must comply with existing MSS ATC service rules specified in 47 C.F.R. § 25.252, as well as the limits on the radiated power of out-of-band emissions in the 1559-1610 MHz band, among others, from ATC base and mobile stations according to the technical and operational conditions specified in the ATC authorizations.

<sup>31</sup> See *Mobile Broadband: The Benefits of Additional Spectrum*, OBI Technical Paper No. 6, Federal Communications Commission Omnibus Broadband Initiative, at 9 (Oct. 21, 2010).

<sup>32</sup> *MSS NPRM*, 25 FCC Rcd at 9486-87, ¶¶ 11-12.

<sup>33</sup> 47 C.F.R. § 2.106 footnote US380.

<sup>34</sup> 47 C.F.R. § 2.106 footnotes NG156, NG168.

<sup>35</sup> Letter from Robert H. McNamara, Director, Spectrum Management, Sprint Nextel, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, WT Docket No. 02-55, ET Docket Nos. 00-258, 95-18, (filed Jul. 15, 2010).

with the international allocations. We also lay the foundation for more flexible use of the band in the future, thereby promoting investment in the development of new services and additional innovative technologies.<sup>36</sup> As noted above and discussed more fully below,<sup>37</sup> in adding these co-primary allocations and in applying certain secondary market spectrum leasing rules to MSS/ATC leasing arrangements we have not altered in any way the existing MSS/ATC service rules and policies that the Commission previously adopted to guard against harmful interference.<sup>38</sup> Furthermore, we conclude that adding co-primary Fixed and Mobile allocations in this band will not result in harmful interference, and would not inevitably lead to uses that would result in harmful interference.<sup>39</sup> Finally, having added co-primary Fixed and Mobile allocations to the 2 GHz band, we anticipate issuing a notice of proposed rulemaking on subjects raised in the *MSS NOI*, including possible service rule changes that could increase investment and utilization of the band in a manner that further serves the public interest. We expect the staff will take advantage of industry technical expertise as it develops options, which may include potential synergies with neighboring bands,<sup>40</sup> to inform our decision making process going forward.

**B. Applying Terrestrial Secondary Market Spectrum Leasing Policies to MSS/ATC Spectrum Leasing Arrangements**

14. As proposed in the *MSS NPRM*, we extend the Commission's general secondary market spectrum leasing policies, procedures, and rules to MSS/ATC spectrum leasing arrangements.<sup>41</sup> As we discussed in the *MSS NPRM*, recent and planned near-term developments in the use of MSS/ATC spectrum for the provision of terrestrial services are increasing the potential that these services will become sufficiently similar to the services offered in the overall market of mobile terrestrial wireless services to enhance competition in this larger mobile marketplace.<sup>42</sup> Accordingly, we find that a common set of policies, procedures, and rules – where consistent with MSS/ATC policies and rules – will promote greater consistency, regulatory parity, predictability, and transparency with respect to spectrum leasing arrangements involving terrestrially-based mobile service offerings.

15. The record contains widespread support to apply the Commission's general secondary markets terrestrial spectrum leasing policies, procedures, and rules to spectrum leasing arrangements that

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<sup>36</sup> See *infra* at paras. 14-15 (discussing how the extension of the Commission's spectrum leasing rules to MSS/ATC should increase the opportunities and incentives for investment in efficient and innovative arrangements for using the spectrum under the existing MSS/ATC rules); see also *MSS NOI*, 25 FCC Rcd at 9492, ¶ 26 (launching broader inquiry on how the Commission can best increase the value, utilization, innovation, and investment in the spectrum for terrestrial services in the 2 GHz band and other MSS bands, while ensuring that the United States market, as a whole, continues to have robust mobile satellite service capabilities).

<sup>37</sup> See *supra* at para. 10; *infra* at para. 26.

<sup>38</sup> In adopting MSS/ATC service rules in 2003, including technical and interference rules, the Commission concluded that the added flexibility of ATC service would not result in harmful interference among users. *ATC Report and Order*, modified by *Order on Reconsideration*, 18 FCC Rcd 13590.

<sup>39</sup> Indeed, the Table of Frequency Allocations includes numerous bands allocated to Fixed and Mobile services on a co-primary basis with other services that successfully share spectrum without causing harmful interference to each other.

<sup>40</sup> For example, in the *MSS NOI* we asked about potential synergies between the 2 GHz MSS band and nearby, unassigned AWS spectrum. See *MSS NOI*, 25 FCC Rcd at 9493, ¶ 30.

<sup>41</sup> As explained in the *MSS NPRM*, the application of the secondary market rules to MSS/ATC spectrum will not apply to the BAS and FSS operations currently in the 2 GHz band or to MSS leasing arrangements (e.g., transponder leases) that do not involve spectrum associated with terrestrial operations. *MSS NPRM*, 25 FCC Rcd at 9489, ¶ 17 n.54.

<sup>42</sup> *Id.* at 9484-85, 9490-91, ¶¶ 7, 21-22.

provide for the terrestrial use of MSS/ATC spectrum.<sup>43</sup> Indeed, every commenter that addressed the issue of whether to apply the general secondary markets spectrum leasing rules and policies to MSS/ATC spectrum leasing arrangements supported the extension of those rules and policies.<sup>44</sup> For example, the Telecommunications Industry Association asserts that applying the Commission's secondary market rules and policies to MSS/ATC spectrum will encourage innovative arrangements and partnerships that will speed the development and deployment of wireless broadband to rural and other areas.<sup>45</sup> Additionally, Inmarsat states that spectrum leasing arrangements would facilitate the ability of MSS operators to deploy ATC, which would increase the availability of terrestrial broadband services and advance the public interest.<sup>46</sup> And, Echostar notes that "efficient secondary markets . . . promote spectrum efficiency and create opportunities to maximize use of spectrum for mobile broadband services."<sup>47</sup> We agree that applying these spectrum leasing policies and rules will help facilitate efficient and innovative new arrangements for using MSS/ATC spectrum, including in both urban and rural areas. Moreover, commenters assert that by extending these spectrum leasing policies, the Commission would establish regulatory predictability and parity between similarly situated services.<sup>48</sup>

16. *Spectrum Manager Leasing Arrangements.* Consistent with the Commission's applicable MSS/ATC policies and rules, and the ancillary nature of ATC to the provision of satellite service under the MSS license authorization, we determine that MSS licensees and spectrum lessees may only enter into spectrum manager leasing arrangements.<sup>49</sup> As discussed in the *MSS NPRM*, the Commission established several "gating criteria" that MSS operators must meet in order to have authorization for operation of ATC stations.<sup>50</sup> At their core, these gating criteria require the MSS licensee to provide substantial satellite service, as well as an integrated satellite/terrestrial service. We conclude that MSS/ATC spectrum manager leasing arrangements, which would require the MSS licensee to maintain an active role in ensuring compliance with all of these requirements, are the best means of ensuring that terrestrial leasing arrangements in MSS spectrum remains consistent with the underlying MSS/ATC policies and rules.<sup>51</sup> We believe that the spectrum manager leasing rules will enable significant flexibility for the provision of terrestrial mobile broadband as part of an MSS/ATC service offering.

<sup>43</sup> See, e.g., MSS ATC Coalition Comments at 1-2, 13-14; Echostar Comments at 2, 5; AT&T Comments at ii-iii, 7-11; CTIA Comments at 4, 11-12; T-Mobile Comments at 2, 4-7; U.S. Cellular Comments at 1-2, 4-5; Verizon Wireless Comments at 4-7; CDMA Development Group Comments at 5-6; Mobile Satellite Users Association Comments at 4; Telecommunications Industry Association Comments at 6-7; LightSquared Comments at 8; DBSD Comments at 8; Globalstar Comments at 19-20; TerreStar Comments at 5; Cricket Comments at 2; and James Whedbee Comments at 1-2.

<sup>44</sup> See, e.g., CTIA Reply Comments at 7; TerreStar Reply Comments at 2-3; AT&T Reply Comments at 6.

<sup>45</sup> Telecommunications Industry Association Comments at 6-7.

<sup>46</sup> Inmarsat Comments at 8.

<sup>47</sup> Echostar Comments at 3.

<sup>48</sup> See, e.g., Echostar Comments at 5; MSS ATC Coalition at 13; CTIA Reply at 8.

<sup>49</sup> As noted above, the Commission's secondary market policies for Wireless Radio Services provide for two different types of spectrum leasing arrangements: "spectrum manager" leasing arrangements and "de facto transfer" leasing arrangements. See *supra* n.10; see generally *Secondary Markets First Report and Order*, 18 FCC Rcd at 20610-13, 20635-38, 20649-71, ¶¶ 12-13, 64-70, 94-159.

<sup>50</sup> *MSS NPRM*, 25 FCC Rcd at 9482-83, ¶ 5. These gating criteria are set forth in 47 C.F.R. § 25.149.

<sup>51</sup> We note that in response to the *MSS NOI* some commenters request that the Commission lessen or eliminate some of the MSS/ATC "gating criteria." See, e.g., DBSD Comments at 15-16; Globalstar Comments at 9-10, 26; Cricket Comments at 11-13. As indicated above, we are not addressing these issues in this *Report and Order*. See *supra* n.29. We note that in the *MSS NPRM* we did not propose any changes to the MSS/ATC gating criteria.



17. Under a spectrum manager leasing arrangement, the MSS licensee retains *de facto* control of the MSS spectrum at all times, remaining primarily responsible for ensuring compliance with the underlying MSS/ATC requirements (including the MSS/ATC authorization) as well as for the spectrum lessee's compliance with those requirements. This responsibility includes maintaining reasonable operational oversight over the leased spectrum so as to ensure that each lessee complies with all applicable technical and service rules, including frequency coordination requirements and resolution of interference-related matters.<sup>52</sup> Permitting only spectrum manager leasing arrangements ensures that the MSS licensee retains primary responsibility for MSS, including the provision of substantial satellite service (including all gating criteria) as well as the coordination of any terrestrial use with satellite use so that the terrestrial use is consistent with the MSS service and interference rules.<sup>53</sup> Requiring spectrum manager leasing arrangements also address the concerns, expressed by Inmarsat, that the MSS licensee should retain ultimate control over the use of MSS spectrum in order to enhance its ability to coordinate operations and avoid harmful interference.<sup>54</sup>

18. *De facto* transfer leasing arrangements, in contrast, would effectively transfer primary responsibilities for meeting these obligations to the spectrum lessee(s), which are not in a position to meet many of the underlying obligations of the MSS license authorization, such as meeting the gating criteria obligations to provide substantial satellite service and to provide integrated mobile satellite/terrestrial service.<sup>55</sup> Transferring *de facto* control over the use of the spectrum to a spectrum lessee also could sever the relationship between the provision of the satellite and the terrestrial service. We are not persuaded by the commenters that assert generally that we should permit MSS licensees to enter into *de facto* transfer leasing arrangements, but do not address how such arrangements would be fully consistent with the MSS/ATC gating criteria.<sup>56</sup>

19. In permitting MSS licensees to enter into spectrum manager leasing arrangements involving MSS/ATC spectrum, we also will apply the general policies and rules that pertain to the spectrum manager leasing arrangements, as set forth in the Commission's secondary market policies and rules.<sup>57</sup> Accordingly, we agree with TerreStar that an MSS licensee may lease its licensed MSS/ATC

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<sup>52</sup> See generally *Secondary Markets First Report and Order*, 18 FCC Rcd at 20610-11, 20635-38, ¶¶ 12, 64-70.

<sup>53</sup> We note that our decision limiting MSS/ATC spectrum leasing arrangements to spectrum manager leasing arrangements is consistent with the Commission's previous determination in the *Globalstar Waiver Order* to require the MSS licensee to continue to act as a spectrum manager with respect to the leased spectrum, retaining the ability to exercise effective working control of the spectrum and maintaining ongoing responsibility for ensuring compliance with all applicable Commission MSS/ATC policies. See *Globalstar Waiver Order*, 23 FCC Rcd at 15985-88, ¶¶ 24-27.

<sup>54</sup> Inmarsat argues that an MSS/ATC lessee "may not have the incentive or ability to manage interference effectively," and suggests that the Commission only permit spectrum manager leasing arrangements to "ensur[e] that MSS operators retain ultimate control over the use of MSS spectrum, enhancing their ability to coordinate operations with ATC uses and avoid harmful interference." Inmarsat Comments at 9-10; see also MSS ATC Coalition Comments at 13 (recognizing that *de facto* transfer leasing arrangements raise more complicated interference issues than spectrum manager leasing arrangements).

<sup>55</sup> Cf. Verizon Wireless Comments at 7 (application of spectrum leasing rules should not be used to circumvent existing MSS rules, including the ATC gating criteria).

<sup>56</sup> See, e.g., LightSquared Comments at 8-9; DBSD Comments at 9-10; Cricket Comments at 7 (limiting spectrum leasing arrangements to spectrum manager leasing arrangements would impose artificial limits and deter innovative arrangements); T-Mobile Reply Comments at 9-10 (asserting generally that allowing both spectrum manager and *de facto* transfer leasing arrangements would promote efficient use of spectrum); TerreStar Reply Comments at 3.

<sup>57</sup> See generally *Secondary Markets First Report and Order*; *Secondary Markets Second Report and Order*; 47 C.F.R. Part 1, Subpart X ("Spectrum Leasing").

spectrum in varying amounts and in any geographic area or site encompassed by the license when entering into a spectrum manager leasing arrangement.<sup>58</sup> We include a revised set of rules in Appendix A that incorporate MSS/ATC spectrum leasing arrangements within our Part 1 and Part 25 rules.<sup>59</sup>

20. *Notification procedures.* MSS licensees and potential spectrum lessees seeking to enter into spectrum manager leasing arrangements will be required to file the same information and certifications as required under the Commission's rules for Wireless Radio Service.<sup>60</sup> As proposed in the *MSS NPRM*, we will require that leasing parties submit specified information and certifications (including information about the parties, the amount and geographic location of the spectrum involved, and other overlapping terrestrial-use spectrum holdings of the parties) to the Commission in advance of any operations that would be permitted pursuant to the proposed transaction.<sup>61</sup>

21. As with spectrum manager leasing arrangements involving Wireless Radio Services, to the extent a proposed MSS/ATC spectrum manager leasing arrangement does not raise potential public interest concerns, the transaction would be subject to immediate processing,<sup>62</sup> whereas to the extent potential public interest concerns were raised (e.g., potential competitive harms, as discussed below, or foreign ownership concerns) the transaction would be subject to streamlined procedures as the Commission evaluated whether the public interest would be served by the proposed transaction.<sup>63</sup> We hereby delegate to the Wireless Telecommunications Bureau (WTB) and the International Bureau (IB) the authority to resolve implementation and administrative issues relating to these notification requirements, which will include revisions to FCC Form 608 and the Commission's Universal Licensing System (ULS) to incorporate these MSS/ATC arrangements.<sup>64</sup>

22. *Potential competitive concerns.* Assessing potential competitive effects of proposed secondary market transactions is an important element of the Commission's policies to promote

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<sup>58</sup> See *TerreStar Comments* at 6 n.13 ("Like Wireless Radio Services licensees, MSS licensees should be permitted to partition and disaggregate their service areas, which by virtue of satellite authorizations are nationwide."). This is consistent with the Commission's approval in 2008 of the lease between MSS licensee Globalstar and terrestrial provider Open Range in which Globalstar leased to Open Range spectrum in specific geographic areas. See *Globalstar Waiver Order*, 23 FCC Rcd at 15978, ¶ 7.

<sup>59</sup> Appendix A. We note that our revised rules, as set forth herein, also include provisions that reflect the special nature of MSS/ATC spectrum leasing arrangements. For instance, unlike the spectrum leasing rules for most (but not all) Wireless Radio Services, we do not require MSS/ATC spectrum lessees to meet the same eligibility requirements that MSS licensees must meet. See 47 C.F.R. § 1.9020(d)(2) (as revised herein).

<sup>60</sup> See Appendix A.

<sup>61</sup> *MSS NPRM*, 25 FCC Rcd at 9491-92, ¶ 23. As is required with respect to a spectrum leasing arrangement involving Wireless Radio Services, each party to a proposed MSS/ATC spectrum manager leasing arrangement must have correct and up-to-date ownership information on file with the Commission (using FCC Form 602) as of the date that the notification of the spectrum manager leasing arrangement is filed. We hereby delegate to WTB, IB, or OET, as appropriate, the authority to resolve implementation and administrative issues relating to these requirements.

<sup>62</sup> See *Secondary Markets Second Report and Order*, 19 FCC Rcd at 17526-28, ¶¶ 47-50; 47 C.F.R. § 1.9020(e)(2) (immediate processing for spectrum manager leasing arrangements).

<sup>63</sup> See *Secondary Markets Second Report and Order*, 19 FCC Rcd at 17526-28, 17556-57, ¶¶ 46-50, 135; *Secondary Markets First Report and Order*, 18 FCC Rcd at 20659-60, ¶¶ 123-125; 47 C.F.R. § 1.9020(e)(1).

<sup>64</sup> 47 C.F.R. § 1.9020(e). A licensee must submit the notification to the Commission by electronic filing using ULS and FCC Form 608, except that licensees falling within the provisions of § 1.913(d) may file the notification either electronically or manually. *Id.*

competition and guard against the harmful effects of anticompetitive behavior.<sup>65</sup> As the Commission recognized in the *Secondary Markets First Report and Order*, spectrum leasing arrangements potentially raise competitive concerns, and the Commission applied its general competition policies for terrestrially-based mobile services to these arrangements.<sup>66</sup> Specifically, the Commission observed that it may consider the use of leased spectrum as a relevant factor when examining marketplace competition. In assessing the potential competitive effects of spectrum leasing arrangements, the Commission stated that it would determine, based on a case-by-case review of all relevant factors, whether services provided over both leased and licensed spectrum in specific product and geographic markets should be taken into account.<sup>67</sup>

23. We conclude that spectrum leasing arrangements involving MSS/ATC spectrum also potentially raise competitive concerns, as several commenters assert.<sup>68</sup> As we discussed above, technological advances will enable MSS licensees and their spectrum lessees to use ATC authority to provide mobile services similar to those provided by terrestrial mobile providers. While we recognize that in the past the Commission has not viewed MSS as a substitute for terrestrial mobile services,<sup>69</sup> we have recently observed that the mobile satellite service industry currently is undergoing major technological advances and structural changes.<sup>70</sup> In particular, we note that several MSS providers have, at various times, articulated plans to offer high-speed data services, especially in connection with terrestrial networks using their ATC authority, and that such services in the future could affect, and potentially enhance, competition in the provision of terrestrial mobile services.<sup>71</sup> Spectrum lessees of

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<sup>65</sup> *Secondary Markets First Report and Order*, 18 FCC Rcd at 20656, ¶ 116.

<sup>66</sup> *Id.* at 20656-57, 20667, ¶¶ 116-19, 147 (determining that both spectrum manager and *de facto* transfer leasing arrangements potentially raise competitive concerns).

<sup>67</sup> *Id.* at 20656-20657, ¶ 118.

<sup>68</sup> Cricket Comments at 2 (the Commission should ensure MSS/ATC spectrum leasing arrangements promote competition); U.S. Cellular Comments at 4-5 (proposing that the Commission review spectrum leasing arrangements that involve the two largest terrestrial wireless providers); Granite Telecommunications Comments at 1-10 (arguing that the Commission should develop rules to prevent anticompetitive behavior by MSS/ATC licensees and spectrum lessees); AT&T Comments at 7-8 (noting that the Commission already has a process for addressing competitive issues in the context of terrestrial spectrum leasing arrangements). Other commenters argue, however, that the Commission should not subject MSS/ATC spectrum leasing arrangements to a competitive analysis. DBSD Comments at 11 (Commission has historically considered MSS/ATC and terrestrial wireless services to be different services that are imperfect substitutes); TerreStar Comments at 6 (MSS/ATC providers do not possess sufficient spectrum amounts for any competitive concerns to arise, even if all MSS/ATC spectrum were to be leased).

<sup>69</sup> *ATC Report and Order*, 18 FCC Rcd at 1962, ¶ 39; DBSD Comments at 11; *see also, e.g.*, Applications of Celco Partnership d/b/a Verizon Wireless and Atlantis Holdings, LLC For Consent to Assign or Transfer Control of Licenses and Authorizations and Spectrum Manager and *De Facto* Transfer Leasing Arrangements, WT Docket No. 08-95, *Memorandum Opinion and Order and Declaratory Ruling*, 25 FCC Rcd 8704, 8734-8735, at ¶ 68 (2008) (Commission lacked sufficient information on the availability and nature of ATC service to include MSS/ATC in its competitive analysis regarding provision of mobile telephony/broadband).

<sup>70</sup> Implementation of Section 6002(B) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services, *Fourteenth Report*, WT Docket No. 09-66 (Terminated), 25 FCC Rcd 11407, 11444-45, at ¶¶ 36-37 (2010) (*Fourteenth Mobile Competition Report*).

<sup>71</sup> *Id.* at 11444-45, ¶ 37; *see also* SkyTerra Communications, Inc., Transferor and Harbinger Capital Partners Funds, Transferee, Applications for Consent to Transfer of Control of SkyTerra Subsidiary, LLC, IB Docket No. 08-184, FCC File Nos.: TIC-T/C-20080822-00397; SAT-T/C-20080822-00157; SES-T/C 20080822-01089; SES-T/C-20080822-01088 0003540644 0021-EX-TU-2008; and ISP-PDR-20080822-00016, *Memorandum Opinion and Order and Declaratory Ruling*, 25 FCC Rcd 3059, 3078-79, 3080-85, 3086-87, at ¶¶ 33-36, 40-54, 60 (IB, WTB, OET 2010) (*SkyTerra/Harbinger Order*), reconsideration pending.

MSS/ATC spectrum therefore appear increasingly likely to provide services that could affect competition in the mobile telephony/broadband services product market. Accordingly, to the extent that we determine that particular MSS/ATC spectrum leasing arrangements can be used to provide such services, the procedures we will adopt allow us to assess these arrangements in the context of our existing competitive analysis framework for mobile telephony/broadband services,<sup>72</sup> consistent with our general authority to ensure that the public interest would be served by proposed transactions.<sup>73</sup>

24. *Existing MSS/ATC spectrum leasing arrangements.* We conclude that MSS licensees and MSS/ATC spectrum lessees must conform any existing spectrum leasing arrangement to the spectrum leasing policies adopted in this Report and Order.<sup>74</sup> We note that providing this information and submitting the notification is consistent with the Commission's approach when it first evaluated an MSS/ATC spectrum leasing arrangement in the *Globalstar Modification Order*, as discussed above.<sup>75</sup> We direct parties to submit notification to the Commission of any existing MSS/ATC spectrum leasing arrangements no later than thirty (30) days of the effective date of this Report and Order.<sup>76</sup>

25. *U.S. GPS Industry Council's Request.* In its comments, the U.S. GPS Industry Council expresses concern about the need to protect the Radionavigation-Satellite Service (RNSS) operating in the 1559-1610 MHz band, including the Global Positioning System (GPS), from interference from terrestrial operations in the MSS bands.<sup>77</sup> The U.S. GPS Industry Council is concerned that applying existing secondary market rules to the use of MSS/ATC spectrum could lead to denser deployment of terrestrial services using MSS spectrum, which in turn would increase the probability of harmful interference to GPS.<sup>78</sup> It also requests that the Commission codify the technical operating parameters applicable to MSS licensees under their respective ATC authorizations to ensure greater clarity and certainty about the

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<sup>72</sup> Both AT&T and Verizon Wireless assert that if we adopt industry-wide secondary market policies and rules for MSS/ATC spectrum leasing arrangements in this proceeding, then the condition adopted in the *SkyTerra/Harbinger Order* that requires SkyTerra (now LightSquared) to obtain Commission approval before making MSS/ATC spectrum available to the two largest terrestrial wireless providers should now be eliminated. AT&T Comments at 9-10 (also asserting that the wholesale condition in that *SkyTerra/Harbinger Order* should be eliminated); Verizon Wireless Comments at 6 n.21; see *SkyTerra/Harbinger Order*, 25 FCC Rcd at 3088-89, 3098, ¶ 72 and Appendix B (Harbinger Business Plan Letter of Mar. 26, 2010) at Attach. 2.

<sup>73</sup> We note that these procedures also enable us to assess each proposed spectrum manager leasing arrangement to determine whether any other type of competitive issue might arise in the context of the MSS/ATC transaction, such as leasing arrangements between different MSS operators. See *SkyTerra/Harbinger Order*, 25 FCC Rcd at 3082-85, ¶¶ 44-54 (discussing the future mobile satellite services market and the potential competitive issues that potentially may be raised among MSS operators as the marketplace evolves).

<sup>74</sup> We sought comment on how the adoption of industry-wide MSS/ATC spectrum leasing rules should affect any existing MSS/ATC leasing arrangements. *MSS NPRM*, 25 FCC Rcd at 9488, ¶ 24. In response, AT&T asserts that all existing MSS/ATC spectrum leases should be subject to "the same sorts of application filings and disclosures as are present in the terrestrial wireless context." AT&T Comments at 8. TerreStar, however, argues that existing MSS spectrum leasing arrangements should be grandfathered. TerreStar Comments at i, 6-7.

<sup>75</sup> See *supra* para. 7 (MSS licensee Globalstar and its spectrum lessee filed a letter notification to the Commission of their MSS/ATC spectrum leasing arrangement modeled on requirements associated with "spectrum manager" leasing arrangements). We note that, to the extent than any MSS/ATC leasing arrangement would rise to the level of a Section 310(d) transfer of control, the parties are subject to the Communications Act and the Commission's transfer of control requirements.

<sup>76</sup> This would include any spectrum leasing arrangement that parties may seek to enter prior to the effective date of the rules adopted herein.

<sup>77</sup> See generally U.S. GPS Industry Council Comments.

<sup>78</sup> *Id.* at 8-14.

interference rules applicable to secondary market arrangements.<sup>79</sup> The U.S. GPS Industry Council expresses particular concern about potential interference to GPS that could result from adjacent terrestrial operations by an MSS L-band operator (LightSquared Subsidiary LLC).<sup>80</sup> The National Telecommunications and Information Administration (NTIA) also has expressed concern about the potential for adverse impact of MSS/ATC operations in the L-band on GPS and other Global Navigation Satellite System (GNSS) receivers.<sup>81</sup>

26. The addition of co-primary Fixed and Mobile allocations to the MSS 2 GHz band and the secondary market policies and rules that we adopt herein<sup>82</sup> do not in any way change the obligations that attach to each MSS licensee to comply with the applicable technical and operational rules for ATC operations pursuant to its license authorization.<sup>83</sup> Under the spectrum manager leasing arrangements that we are permitting, the MSS licensee continues to have primary responsibility for ensuring compliance of any terrestrial operations with the obligations associated with its authorization, and each spectrum lessee would be obligated to ensure its operations comply with the particular technical and operational requirements applicable to the MSS licensee from which it is leasing spectrum.

27. To the extent that potential inference concerns arise with respect to MSS/ATC operations in particular MSS bands, concerns will be addressed on a licensee and band-specific basis.<sup>84</sup> We note that, as regards the interference concerns raised by the U.S. GPS Industry Council and NTIA about LightSquared's MSS/ATC operations in the MSS L-band, LightSquared is working with the GPS community by establishing a technical working group to fully study the potential for harmful interference from its base station operations in the MSS L-band spectrum to GPS receivers in the adjacent 1559-1610 MHz band and to identify measures necessary to prevent harmful interference to GPS.<sup>85</sup> Pursuant to the January 26, 2011 *LightSquared Waiver Order*, LightSquared cannot commence offering a commercial terrestrial service on its MSS L-band frequencies until the Commission, after consultation with NTIA, concludes that the harmful interference concerns have been resolved.<sup>86</sup>

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<sup>79</sup> *Id.* at 5-8.

<sup>80</sup> *Id.* at 5-8.

<sup>81</sup> NTIA has concerns about possible interference to GPS as expressed in its letter from Lawrence E. Strickling, Assistant Secretary for Communications and Information, U.S. Department of Commerce, to Julius Genachowski, Chairman, Federal Communications Commission (filed Jan. 12, 2011).

<sup>82</sup> In the *MSS NPRM*, we did not propose to modify the service rules governing ATC. *See generally MSS NPRM*, 25 FCC Rcd at 9486-88, ¶¶ 10-16.

<sup>83</sup> Operation of ATC networks is permitted in certain spectrum allocated for Mobile-Satellite use under a footnote to the United States Table of Allocations. 47 C.F.R. § 2.106, footnote US380; *see also MSS NPRM*, 25 FCC Rcd at 9482-83, ¶ 5 n.9. As we stated in the *MSS NPRM*, the Commission intends to coordinate any future grant of ATC authority with NTIA, pursuant to the general notification process, to assure adequate protection of the GPS. *MSS NPRM*, 25 FCC Rcd at 9492, ¶ 22 n.71 (citing 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, *ATC Second Order on Reconsideration*, 20 FCC Rcd 4616, 4642, ¶ 71 (2005)).

<sup>84</sup> *See MSS NPRM*, 25 FCC Rcd at 9491, ¶ 22 n.72; *ATC Second Reconsideration Order*, 20 FCC Rcd at 4642, ¶ 71.

<sup>85</sup> *See* LightSquared Subsidiary LLC Request for Modification of its Authority for an Ancillary Terrestrial Component, SAT-MOD-20101118-00239, *Order and Authorization*, 26 FCC Rcd 566, 586-87, at ¶¶ 41-43 (International Bureau, Jan. 26, 2011) (*LightSquared Waiver Order*); *recons. pending*. We note that several parties have filed applications for review and petitions for reconsideration of the *LightSquared Waiver Order*.

<sup>86</sup> *See id.* at 586-87, ¶¶ 41-43.

28. We emphasize that responsibility for protecting services rests not only on new entrants but also on incumbent users themselves, who must use receivers that reasonably discriminate against reception of signals outside their allocated spectrum. In the case of GPS, we note that extensive terrestrial operations have been anticipated in the L-band for at least 8 years. We are, of course, committed to preventing harmful interference to GPS and we will look closely at additional measures that may be required to achieve efficient use of the spectrum, including the possibility of establishing receiver standards relative to the ability to reject interference from signals outside their allocated spectrum.

29. *Foreign Ownership.* T-Mobile requests that, in applying the Commission's secondary markets spectrum leasing rules and policies to MSS/ATC, we extend the availability of the immediate processing/approval procedures to prospective lessees with indirect foreign ownership exceeding 25 percent, if that ownership has previously been approved by the Commission.<sup>87</sup> We decline to revisit this issue here. T-Mobile's request is a reiteration of similar previous requests, including requests made in the Commission's earlier wireless secondary markets proceeding, which the Commission has denied.<sup>88</sup> This Report and Order neither re-examines the wireless secondary market rules and policies generally nor establishes independent MSS/ATC secondary market rules and policies.

#### IV. PROCEDURAL MATTERS

##### A. Regulatory Flexibility Analysis

30. A Final Regulatory Flexibility Analysis has been prepared for this Report and Order and is included in Appendix C.

##### B. Paperwork Reduction Analysis

31. This document does not contain new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. In addition, therefore, it does not contain any new or modified "information collection burden for small business concerns with fewer than 25 employees," pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. § 3506(c)(4).

##### C. Congressional Review Act

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

##### D. Alternative Formats and Contact

33. To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to [fcc504@fcc.gov](mailto:fcc504@fcc.gov) or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (TTY). This *Report and Order* also may be downloaded from the Commission's web site at <http://www.fcc.gov/>.

34. For further information concerning this rulemaking proceeding, contact Kevin Holmes, Wireless Telecommunications Bureau, at (202) 418-2487, Nicholas Oros, Office of Engineering and

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<sup>87</sup> T-Mobile Comments at 5-6.

<sup>88</sup> Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, *Second Order on Reconsideration*, 23 FCC Rcd 15081, 15083, at ¶ 6 (2008) (concluding that the Commission had struck the appropriate balance concerning immediate processing/approval when Section 310(b)(4) foreign ownership issues were raised, and denying T-Mobile's proposal as not sufficiently precise to allow the Commission to rely upon an applicant's certification for purposes of our Section 310(b)(4) review); *Secondary Markets Second Report and Order*, 19 FCC Rcd at 17515, ¶ 22 n.55.

Technology, at (202) 418-0636, or Karl Kensinger, International Bureau, at 418-0773, Federal Communications Commission, 445 12<sup>th</sup> Street, S.W., Washington, D.C. 20554; or via the Internet to kevin.holmes@fcc.gov, Nicholas.oros@fcc.gov, or Karl.kensinger@fcc.gov, respectively.

## V. ORDERING CLAUSES

35. Accordingly, IT IS ORDERED, that pursuant to Sections 1, 4(i) and (j), 301, 303, and 310 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 154(j), 301, 303, and 310, this *Report and Order* IS ADOPTED.

36. IT IS FURTHER ORDERED, that pursuant to the authority contained in Sections 1, 4(i) and (j), 301, 303, and 310 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 154(j), 301, 303, and 310, the Commission's rules ARE AMENDED as set forth in Appendix A.

37. IT IS FURTHER ORDERED that the rules contained herein SHALL BE EFFECTIVE 30 days after publication of the *Report and Order* in the Federal Register.

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

39. IT IS FURTHER ORDERED that the Commission SHALL SEND a copy of this Report and Order in a report to be sent to Congress and the General Accounting Office pursuant to the Congressional Review Act, see 5 U.S.C. § 801(a)(1)(A).

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch  
Secretary

## APPENDIX A

## Final Rules

For the reasons discussed above, the Federal Communications Commission amends title 47 of the Code of Federal Regulations, Parts 1, 2 and 25, as follows:

## PART 1 – PRACTICE AND PROCEDURE

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

AUTHORITY: 15 U.S.C. 79 *et seq.*; 47 U.S.C. 151, 154(i), 154(j), 155, 157, 225, 303(r), and 309.

2. Section 1.9001 is amended by revising paragraph (a) to read as follows:

**§ 1.9001 Purpose and scope.**

(a) The purpose of part 1, subpart X is to implement policies and rules pertaining to spectrum leasing arrangements between licensees in the services identified in this subpart and spectrum lessees. This subpart also implements policies for private commons arrangements. These policies and rules also implicate other Commission rule parts, including parts 1, 2, 20, 22, 24, 25, 26, 27, 80, 90, 95, and 101 of title 47, chapter I of the Code of Federal Regulations.

\* \* \* \* \*

3. Section 1.9005 is amended by revising the introductory text and by adding paragraph (jj) to read as follows:

**§ 1.9005 Included services.**

The spectrum leasing policies and rules of this subpart apply to the following services, which include Wireless Radio Services in which commercial or private licensees hold exclusive use rights and the Ancillary Terrestrial Component (ATC) of a Mobile Satellite Service:

\* \* \* \* \*

(jj) The ATC of a Mobile Satellite Service (part 25 of this chapter).

4. Section 1.9020 is amended by revising paragraphs (d)(2)(i) and (e)(2)(i)(A) to read as follows:

**§ 1.9020 Spectrum manager leasing arrangements.**

\* \* \* \* \*

(d) \* \* \*

(2) \* \* \*

(i) The spectrum lessee must meet the same eligibility and qualification requirements that are applicable to the licensee under its license authorization, with the following exceptions. A spectrum lessee entering into a spectrum leasing arrangement involving a licensee in the Educational Broadband Service (see § 27.1201 of this chapter) is not required to comply with the eligibility requirements pertaining to such a licensee so long as the spectrum lessee meets the



other eligibility and qualification requirements applicable to 47 C.F.R. part 27 services (see § 27.12 of this chapter). A spectrum lessee entering into a spectrum leasing arrangement involving a licensee in the Public Safety Radio Services (see part 90, subpart B and § 90.311(a)(1)(i) of this chapter) is not required to comply with the eligibility requirements pertaining to such a licensee so long as the spectrum lessee is an entity providing communications in support of public safety operations (see § 90.523(b) of this chapter). A spectrum lessee entering into a spectrum leasing arrangement involving a licensee in the Mobile Satellite Service with ATC authority (see part 25) is not required to comply with the eligibility requirements pertaining to such a licensee so long as the spectrum lessee meets the other eligibility and qualification requirements of paragraphs (d)(2)(ii) and (d)(2)(iv) of this section.

\* \* \* \* \*

(e) \* \* \*

(2) \* \* \*

(i) \* \* \*

(A) The license does not involve spectrum that may be used to provide interconnected mobile voice and/or data services under the applicable service rules and that would, if the spectrum leasing arrangement were consummated, create a geographic overlap with spectrum (1) in any licensed Wireless Radio Service (including the same service), or (2) in the ATC of a Mobile Satellite Service, in which the proposed spectrum lessee already holds a direct or indirect interest of 10% or more (*see* §1.2112), either as a licensee or a spectrum lessee, and that could be used by the spectrum lessee to provide interconnected mobile voice and/or data services;

\* \* \* \* \*

5. Add § 1.9049 to read as follows:

**§ 1.9049 Special Provisions relating to spectrum leasing arrangements involving the Ancillary Terrestrial Component of Mobile Satellite Services.**

- (a) A license issued under Part 25 of the Commission's rules that provides authority for an ATC will be considered to provide "exclusive use rights" for purpose of this Subpart of the rules.
- (b) For the purpose of this Subpart, a Mobile Satellite Service licensee with an ATC authorization may enter into a spectrum manager leasing arrangement with a spectrum lessee (see § 1.9020). Notwithstanding the provisions of sections 1.9030 and 1.9035, a MSS licensee is not permitted to enter into a *de facto* transfer leasing arrangement with a spectrum lessee.
- (c) For purposes of section 1.9020(d)(8), the Mobile Satellite Service licensee's obligation, if any, concerning the E911 requirements in section 20.18 of this chapter, will, with respect to an ATC, be specified in the licensing document for the ATC.
- (d) The following provision shall apply, in lieu of section 1.9020(m), with respect to spectrum leasing of an ATC:

(1) Although the term of a spectrum manager leasing arrangement may not be longer than the term of the ATC license, a licensee and spectrum lessee that have entered into an

arrangement, the term of which continues to the end of the current term of the license may, contingent on the Commission's grant of a modification or renewal of the license to extend the license term, extend the spectrum leasing arrangement into the new license term. The Commission must be notified of the extension of the spectrum leasing arrangement at the same time that the licensee submits the application seeking an extended license term. In the event the parties to the arrangement agree to extend it into the new license term, the spectrum lessee may continue to operate consistent with the terms and conditions of the expired license, without further action by the Commission, until such time as the Commission makes a final determination with respect to the extension or renewal of the license.

(2) Reserved.

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

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

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

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

a. Page 36 is revised.

b. In the list of United States (US) Footnotes, footnote US380 is revised.

c. In the list of non-Federal Government (NG) Footnotes, footnote NG156 is removed and footnote NG168 is revised.

### **§ 2.106 Table of Frequency Allocations.**

The revisions read as follows:

\* \* \* \* \*

1980-2010 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A  5.388 5.389A 5.389B 5.389F			1980-2025	NG177 2000-2020 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space)	Satellite Communications (25)
2010-2025 FIXED MOBILE 5.388A 5.388B	2010-2025 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space)	2010-2025 FIXED MOBILE 5.388A 5.388B		2020-2025 FIXED MOBILE	
5.388	5.388 5.389C 5.389E	5.388		NG177	
2025-2110 SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (Earth-to-space) (space-to-space)			2025-2110 SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) SPACE RESEARCH (Earth-to-space) (space-to-space)	2025-2110 FIXED NG118 MOBILE 5.391	TV Auxiliary Broadcasting (74F) Cable TV Relay (78) Local TV Transmission (101J)
5.392			5.391 5.392 US90 US222 US346 US347 US393	5.392 US90 US222 US346 US347 US393	
2110-2120 FIXED MOBILE 5.388A 5.388B SPACE RESEARCH (deep space) (Earth-to-space)			2110-2120	2110-2120 FIXED MOBILE	Public Mobile (22) Wireless Communications (27) Fixed Microwave (101)
5.388			US252	US252	
2120-2170 FIXED MOBILE 5.388A 5.388B	2120-2160 FIXED MOBILE 5.388A 5.388B Mobile-satellite (space-to-Earth)  5.388	2120-2170 FIXED MOBILE 5.388A 5.388B	2120-2200	2120-2180 FIXED MOBILE	
5.388	2160-2170 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth)				
5.388	5.388 5.389C 5.389E	5.388		NG153 NG178	
2170-2200 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A  5.388 5.389A 5.389F				2180-2200 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth)	Satellite Communications (25)
				NG168	

\* \* \* \* \*

## UNITED STATES (US) FOOTNOTES

\* \* \* \* \*

US380 In the bands 1525-1544 MHz, 1545-1559 MHz, 1610-1645.5 MHz, 1646.5-1660.5 MHz, and 2483.5-2500 MHz, a non-Federal licensee in the mobile-satellite service (MSS) may also operate an ancillary terrestrial component in conjunction with its MSS network, subject to the Commission's rules for ancillary terrestrial component and subject to all applicable conditions and provisions of its MSS authorization.

\* \* \* \* \*

## NON-FEDERAL GOVERNMENT (NG) FOOTNOTES

\* \* \* \* \*

NG168 Except as permitted below, the use of the 2180-2200 MHz band is limited to the MSS and ancillary terrestrial component offered in conjunction with an MSS network, subject to the Commission's rules for ancillary terrestrial components and subject to all applicable conditions and provisions of an MSS authorization. In the 2180-2200 MHz band, where the receipt date of the initial application for facilities in the fixed and mobile services was prior to January 16, 1992, said facilities shall operate on a primary basis and all later-applied-for facilities shall operate on a secondary basis to the mobile-satellite service (MSS); and not later than December 9, 2013, all such facilities shall operate on a secondary basis.

\* \* \* \* \*

**PART 25 – SATELLITE COMMUNICATIONS**

8. The authority citation for Part 25 continues to read as follows:

AUTHORITY: 47 U.S.C. 701-744. Interprets or applies Sections 4, 301, 302, 303, 307, 309 and 332 of the Communications Act, as amended, 47 U.S.C. Sections 154, 301, 302, 303, 307, 309 and 332, unless otherwise noted.

9. Section 25.149 is amended by adding paragraph (g) to read as follows:

**§ 25.149 Application requirements for ancillary terrestrial components in the mobile-satellite service networks operating in the 1.5/1.6 GHz, 1.6/2.4 GHz and 2 GHz mobile-satellite service.**

\* \* \* \* \*

(g) *Spectrum leasing.* Leasing of spectrum rights by MSS licensees or system operators to spectrum lessees for ATC use is subject to the rules for spectrum manager leasing arrangements (*see* § 1.9020) as set forth in Part 1, subpart X of the rules (*see* § 1.9001 *et seq.*). In addition, at the time of the filing of the requisite notification of a spectrum manager leasing arrangement using FCC Form 608 (*see* sections 1.9020(e) and 1.913(a)(5)), both parties to the proposed arrangement must have a complete and accurate FCC Form 602 (*see* section 1.913(a)(2)) on file with the Commission.

**APPENDIX B**  
**List of Commenters**

**Commenters:**

AT&T Inc.  
CDMA Development Group  
CTIA – The Wireless Association® (CTIA)  
Cricket Communications, Inc. (Cricket)  
Lyman Delano  
EIBASS  
EchoStar Satellite Services L.L.C.  
Robert J. Fahrenholz  
Steve Fitzgerald  
Richard Foley  
Globalstar, Inc.  
Granite Telecommunications, LLC  
Michael Ingram  
Inmarsat, Inc.  
Iridium Satellite LLC  
LightSquared Subsidiary LLC (LightSquared)  
MSS ATC Coalition (DBSD North America, Inc., Globalstar, Inc., Inmarsat Inc., LightSquared GP Inc., and TerreStar Networks, Inc.)  
Mobile Satellite Users Association  
Karl Nebbia, Associate Administrator, Office of Spectrum Manager, National Telecommunications and Information Administration, U.S. Department of Commerce  
New DBSD Satellite Services G.P., Debtor-in-Possession (DBSD)  
Kyle Pickens  
T-Mobile USA, Inc. (T-Mobile)  
Telecommunications Industry Association  
TerreStar Networks Inc. (TerreStar)  
U.S. GPS Industry Council  
United States Cellular Corporation (U.S. Cellular)  
James Edwin Whedbee  
Verizon Wireless

**Reply Commenters:**

AT&T Inc.

The Boeing Corporation

CTIA – The Wireless Association®

Globalstar, Inc.

Inmarsat, Inc.

Iridium Satellite LLC

LightSquared Subsidiary LLC

New DBSD Satellite Services G.P., Debtor-in-Possession

T-Mobile USA, Inc.

TerreStar Networks Inc.

## APPENDIX C

## Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),<sup>1</sup> an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the Fixed and Mobile Services in the Mobile Satellite Service Bands at 1525-1559 MHz and 1626.5-1660.5 MHz, 1610-1626.5 MHz and 2483.5-2500 MHz, and 2000-2020 MHz and 2180 MHz Notice of Proposed Rulemaking and Notice of Inquiry (*Notice*).<sup>2</sup> The Commission sought written public comment on the proposals in the *Notice*, including comment on the IRFA. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.<sup>3</sup>

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

2. This Report and Order continues the Commission's efforts to enhance competition and speed the deployment of terrestrial mobile broadband. While ensuring the United States maintains robust mobile satellite service capabilities, in the Report and Order the Commission takes steps to make additional spectrum available for new investment in terrestrial mobile broadband networks.

3. The Report and Order takes two actions. First, we add co-primary Fixed and Mobile allocations to the Table of Frequency Allocations for the 2 GHz band,<sup>4</sup> consistent with the International Table of Allocations. Under this allocation, Fixed and Mobile services will have equal status to Mobile Satellite Services (MSS). This allocation modification is a precondition for more flexible licensing of terrestrial services within the band and lays the groundwork for providing additional flexibility in use of the 2 GHz spectrum in the future. The Report and Order does not change the status of the existing MSS licensees nor grant authority for terrestrial operations in the band beyond what are currently permitted under the Ancillary Terrestrial Component (ATC) rules.<sup>5</sup>

4. Second, the Report and Order applies the Commission's secondary markets policies and rules applicable to terrestrial wireless radio services to spectrum leasing arrangements involving the use of MSS bands for terrestrial services. Specifically, the Report and Order allows MSS/ATC licensees to enter spectrum manager leasing arrangements, which will increase competition, improve spectrum efficiency, and allow small entities greater access to spectrum.

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

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

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

6. The RFA directs agencies to provide a description of, and, where feasible, an estimate of the number of small entities that may be affected by the rules and policies adopted herein.<sup>6</sup> The RFA generally defines the term "small entity" as having the same meaning as the terms "small business,"

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<sup>1</sup> See 5 U.S.C. § 603. The RFA, see 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

<sup>2</sup> See Fixed and Mobile Services in the Mobile Satellite Service Bands at 1525-1559 MHz and 1626.5-1660.5 MHz, 1610-1626.5 MHz and 2483.5-2500 MHz, and 2000-2020 MHz and 2180 MHz, ET Docket No. 10-142, *Notice of Proposed Rulemaking and Notice of Inquiry*, 25 FCC Rcd 9481 (2010) (*MSS NPRM and MSS NOI*).

<sup>3</sup> See 5 U.S.C. § 604.

<sup>4</sup> 47 C.F.R. § 2.106.

<sup>5</sup> Any terrestrial use of the 2 GHz MSS bands must comply with the Commission's service and licensing rules for the band.

<sup>6</sup> 5 U.S.C. § 603(b)(3).

“small organization,” and “small governmental jurisdiction.”<sup>7</sup> In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.<sup>8</sup> A “small business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.<sup>9</sup>

7. ***Satellite Telecommunications and All Other Telecommunications.*** Two economic census categories address the satellite industry. The first category has a small business size standard of \$15 million or less in average annual receipts, under SBA rules.<sup>10</sup> The second has a size standard of \$25 million or less in annual receipts.<sup>11</sup>

8. The category of Satellite Telecommunications “comprises establishments primarily engaged in providing telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications.”<sup>12</sup> Census Bureau data for 2007 show that 512 Satellite Telecommunications firms operated for that entire year.<sup>13</sup> Of this total, 464 firms had annual receipts of under \$10 million, and 18 firms had receipts of \$10 million to \$24,999,999.<sup>14</sup> Consequently, the Commission estimates that the majority of Satellite Telecommunications firms are small entities that might be affected by our action.

9. The second category, *i.e.* “All Other Telecommunications”<sup>15</sup> comprises “establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation. This industry also includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems. Establishments providing Internet services or voice over Internet protocol (VoIP) services via client-supplied telecommunications connections are also included in this industry.”<sup>15</sup> For this category, Census Bureau data for 2007 show that there were a total of 2,383 firms that operated for the entire year.<sup>16</sup> Of this total, 2,347 firms had annual receipts of under \$25 million and 12 firms had annual receipts of \$25 million to \$49,999,999.<sup>17</sup> Consequently, the

<sup>7</sup> 5 U.S.C. § 601(6).

<sup>8</sup> 5 U.S.C. § 601(3) (incorporating by reference the definition of “small-business concern” in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.”

<sup>9</sup> 15 U.S.C. § 632 (1996).

<sup>10</sup> 13 C.F.R. § 121.201, North American Industry Classification System (“NAICS”) code 517410.

<sup>11</sup> 13 C.F.R. § 121.201, NAICS code 517919.

<sup>12</sup> U.S. Census Bureau, 2007 NAICS Definitions, “517410 Satellite Telecommunications.”

<sup>13</sup> See [http://factfinder.census.gov/servlet/IBQTable?\\_bm=y&-geo\\_id=&-\\_skip=900&-ds\\_name=EC0751SSSZ4&-\\_lang=en](http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-_skip=900&-ds_name=EC0751SSSZ4&-_lang=en).

<sup>14</sup> See [http://factfinder.census.gov/servlet/IBQTable?\\_bm=y&-geo\\_id=&-\\_skip=900&-ds\\_name=EC0751SSSZ4&-\\_lang=en](http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-_skip=900&-ds_name=EC0751SSSZ4&-_lang=en)

<sup>15</sup> <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517919&search=2007%20NAICS%20Search>

<sup>16</sup> [http://factfinder.census.gov/servlet/IBQTable?\\_bm=y&-geo\\_id=&-\\_skip=900&-ds\\_name=EC0751SSSZ4&-\\_lang=en](http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-_skip=900&-ds_name=EC0751SSSZ4&-_lang=en) .

<sup>17</sup> [http://factfinder.census.gov/servlet/IBQTable?\\_bm=y&-geo\\_id=&-\\_skip=900&-ds\\_name=EC0751SSSZ4&-\\_lang=en](http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-_skip=900&-ds_name=EC0751SSSZ4&-_lang=en) .



Commission estimates that the majority of All Other Telecommunications firms are small entities that might be affected by our action.

10. **Mobile Satellite Service Carriers.** Neither the Commission nor the U.S. Small Business Administration has developed a small business size standard specifically for mobile satellite service licensees. The appropriate size standard is therefore the SBA standard for Satellite Telecommunications, which provides that such entities are small if they have \$15 million or less in annual revenues.<sup>18</sup> Currently, the Commission's records show that there are 31 entities authorized to provide voice and data MSS in the United States. The Commission does not have sufficient information to determine which, if any, of these parties are small entities. The Commission notes that small businesses are not likely to have the financial ability to become MSS system operators because of high implementation costs, including construction of satellite space stations and rocket launch, associated with satellite systems and services. Nonetheless, it might be possible that some are small entities affected by this Report and Order and therefore we include them in this section of the FRFA.

11. **Wireless Telecommunications Carriers (except satellite).** The Report and Order applies the Commission's secondary market policies and rules to terrestrial service in the MSS bands. We can not predict who may in the future lease spectrum for terrestrial use in these bands. In general, any wireless telecommunications provider would be eligible to lease spectrum from the MSS licensees. Since 2007, the SBA has recognized wireless firms within this new, broad, economic census category.<sup>19</sup> Prior to that time, such firms were within the now-superseded categories of Paging and Cellular and Other Wireless Telecommunications.<sup>20</sup> Under the present and prior categories, the SBA has deemed a wireless business to be small if it has 1,500 or fewer employees.<sup>21</sup> For this category, census data for 2007 show that there were 1,383 firms that operated for the entire year.<sup>22</sup> Of this total, 1,368 firms had employment of 999 or fewer employees and 15 had employment of 1000 employees or more.<sup>23</sup> Similarly, according to Commission data, 413 carriers reported that they were engaged in the provision of wireless telephony, including cellular service, Personal Communications Service (PCS), and Specialized Mobile Radio (SMR) Telephony services.<sup>24</sup> Of these, an estimated 261 have 1,500 or fewer employees and 152 have more than 1,500 employees.<sup>25</sup> Consequently, the Commission estimates that approximately half or more of these firms can be considered small. Thus, using available data, we estimate that the majority of wireless firms can be considered small.

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

12. This Report and Order applies the Commission's secondary markets policies and rules

<sup>18</sup> 13 C.F.R. § 121.201, NAICS code 517410.

<sup>19</sup> See 13 C.F.R. § 121.201, NAICS code 517210.

<sup>20</sup> U.S. Census Bureau, 2002 NAICS Definitions, "517211 Paging"; <http://www.census.gov/epcd/naics02/def/NDEF517.HTM>; U.S. Census Bureau, 2002 NAICS Definitions, "517212 Cellular and Other Wireless Telecommunications"; <http://www.census.gov/epcd/naics02/def/NDEF517.HTM>.

<sup>21</sup> 13 C.F.R. § 121.201, NAICS code 517210. The now-superseded, pre-2007 C.F.R. citations were 13 C.F.R. § 121.201, NAICS codes 517211 and 517212 (referring to the 2002 NAICS).

<sup>22</sup> U.S. Census Bureau, Subject Series: Information, Table 5, "Establishment and Firm Size: Employment Size of Firms for the United States: 2007 NAICS Code 517210" (issued Nov. 2010).

<sup>23</sup> *Id.* Available census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "100 employees or more."

<sup>24</sup> See *Trends in Telephone Service* at Table 5.3.

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

applicable to terrestrial wireless services to spectrum management leasing transactions involving the use of MSS bands for terrestrial wireless services. Leasing parties will be required to submit specified information and certifications (including information about the parties, the amount and geographic location of the spectrum involved, and other overlapping terrestrial-use spectrum holdings of the parties) to the Commission in advance of any operations that would be permitted pursuant to the proposed transaction. These changes affect small and large companies equally. To give these rules any meaning, this information must be generated by small and large entities alike. Otherwise, wireless service providers seeking to lease MSS/ATC spectrum would not have all of the information available to make educated leasing agreements.

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

13. The RFA requires an agency to describe any significant alternatives that it has considered in developing its approach, which may include the following four alternatives (among others): “(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities.”<sup>26</sup>

14. In the Report and Order, we add Fixed and Mobile allocations to the 2000-2020 MHz and 2180-2200 MHz bands. By adding these allocations to the band, we will be in a position to provide greater flexibility for use of this spectrum in the future, which may provide small entities with greater opportunity to lease spectrum. Only one party, Boeing, opposed the proposal, arguing the allocation will undermine the ability of 2 GHz MSS to provide service in rural areas, provide valuable service to public safety, and assist in disaster recovery.<sup>27</sup> Boeing also suggested that keeping MSS primary in the 2 GHz MSS band promotes the goal of international harmonization with respect to satellite services. Boeing also claimed that MSS networks provide the only means to create a next generation air traffic management (ATM) communication, navigation, and surveillance infrastructure. We agree with Boeing that MSS has an important role in meeting the needs of rural areas, the public safety community, and disaster recovery, but conclude that these needs can continue to be satisfied under the rules we adopt. Furthermore, we do not think it prudent to limit future flexible use of the 2 GHz band based on speculation that an ATM communication system may be developed in the band at some unspecified date, particularly in light of evidence of exploding demand for spectrum for mobile broadband networks. We believe that adding Fixed and Mobile allocations to the 2 GHz MSS band will provide additional flexibility to meet this demand in the future and therefore is in the public interest.

15. In the Report and Order, we take steps that may affect small entities that provide specific information pursuant to the Commission’s secondary market leasing rules and policies. The requirements we adopt will require parties to an MSS/ATC spectrum leasing arrangement to file the same type of notification information that other parties to current spectrum leases must file. MSS licensees that propose to enter into MSS/ATC spectrum manager leasing arrangements must file the FCC Form 608. Additionally, all parties to such a proposed spectrum manager leasing arrangement must submit an FCC Form 602, which details ownership information, to the extent that a current version of this form is not already on file with the Commission. The extension of secondary markets rules and policies to MSS/ATC spectrum will promote competition in wireless terrestrial broadband and will benefit small entities in their efforts to compete against other wireless service providers, both large and small, in the provision of wireless broadband services. We believe that, on balance, the benefits to small entities of our actions in the Report and Order far outweigh any burdens this order places on small entities.

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<sup>26</sup> 5 U.S.C. § 603(c)(1) – (c)(4).

<sup>27</sup> Boeing Reply Comments at 2.

16. The record makes clear that broad support exists for extending the Commission's secondary markets rules and policies to MSS/ATC spectrum.<sup>28</sup> Our actions in the Report and Order should benefit wireless broadband service providers seeking additional terrestrial spectrum, many of which may be small entities, by providing access to an increased amount of spectrum. Our actions benefit the public interest by promoting competition, innovation, and investment.

17. In extending the Commission's secondary markets rules and policies to MSS/ATC spectrum, we limit that extension to spectrum manager spectrum leasing arrangements. While several parties recommend we allow both spectrum manager and *de facto* transfer spectrum leasing arrangements,<sup>29</sup> we reject those arguments. *De facto* transfer leasing arrangements would effectively transfer primary responsibilities for meeting the obligations of the MSS licensee to the spectrum lessee(s), which are not in a position to meet many of the underlying obligations of the MSS license authorization, such as meeting the gating criteria obligations to provide substantial satellite service and to provide integrated mobile satellite/terrestrial service. Transferring *de facto* control over the use of the spectrum to a spectrum lessee also could sever the relationship between the provision of the satellite and terrestrial service. Thus, we do not extend *de facto* transfer spectrum leasing arrangements to the MSS/ATC spectrum.

18. Report to Congress: The Commission will send a copy of the Report and Order, including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act.<sup>30</sup> In addition, the Commission will send a copy of the Report and Order, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the Report and Order and the FRFA (or summaries thereof) will also be published in the Federal Register.<sup>31</sup>

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<sup>28</sup> See, e.g., MSS ATC Coalition Comments at 1-2, 13-14; Echostar Comments at 2, 5; AT&T Comments; CTIA Comments at ii-iii, 7-11; T-Mobile Comments at 2, 4-7; U.S. Cellular Comments at 1-2, 4-5; Verizon Wireless Comments at 4-7; CDMA Development Group Comments at 5-6; Mobile Satellite Users Association Comments at 4; Telecommunications Industry Association Comments at 6-7; LightSquared Comments at 8; DBSD Comments at 8; Globalstar Comments at 19-20; TerreStar Comments at 5; Cricket Comments at 2; and James Whedbee Comments at 1-2.

<sup>29</sup> See, e.g., LightSquared Comments at 8-9; DBSD Comments at 9-10; Cricket Comments at 7 (limiting spectrum leasing arrangements to spectrum manager leasing arrangements would impose artificial limits and deter innovative arrangements); T-Mobile Reply Comments at 9-10 (asserting generally that allowing both spectrum manager and *de facto* transfer leasing arrangements would promote efficient use of spectrum); TerreStar Reply Comments at 3.

<sup>30</sup> See 5 U.S.C. § 801(a)(1)(A).

<sup>31</sup> See 5 U.S.C. § 604(b).