

and continuation of existing services to the public.⁴² In approving this transaction, the Commission will enable the TerreStar assets and authorizations to come under the ownership of a well-financed, capable, and recognized innovator in communications technology, which moreover has unique experience in developing an innovative and competitive retail operation and growing it from zero to approximately 14 million subscribers.

C. The Transaction Will Facilitate the More Efficient Use of 2 GHz MSS Spectrum

The Applicants expect that the proposed transaction taken together with DISH's proposed acquisition of DBSD, will result in the provision of next-generation broadband services through the combination of DISH's experience, existing service, and customer base, on the one hand, and TerreStar's and DBSD's MSS/ATC spectrum resources, facilities, expertise, and technology, on the other.

1. MSS Spectrum Plays a Key Role in Optimizing Spectrum for Mobile Broadband

MSS spectrum – and the 2 GHz MSS band in particular – offers an important opportunity to address the nation's mobile broadband spectrum gap. The Commission and the Administration are keenly aware of mobile broadband's benefits. In June 2010, President Obama issued a Presidential Memorandum, *Unleashing the Wireless Broadband Revolution*, which accurately extols the benefits of mobile communications – and mobile broadband in particular: “Few technological developments hold as much potential to enhance America's competitiveness, create jobs, and improve the quality of our lives as wireless high-speed access

⁴² See International Authorizations Granted, Public Notice, 19 FCC Rcd. 4079, 4080 (2004); Space Station Licensee, Inc. and Iridium Constellation LLC, *Memorandum Opinion and Order*, 17 FCC Rcd. 2271, 2288-89 ¶¶ 40-44 (2002); ICO-Teledesic Global Ltd., *Memorandum Opinion and Order*, 16 FCC Rcd. 6403, 6407 ¶ 10 (2001); see also Loral/Qualcomm Partnership, *Order*, 10 FCC Rcd. 2333, 2334 ¶ 12 (1995) (holding that, even if a “major” change of ownership occurs, it is in the public interest when it is motivated by a need for financing).

to the Internet.”⁴³ The President went on to emphasize our national interest in ensuring sufficient spectrum availability to support wireless innovation:

This new era in global technology leadership will only happen if there is adequate spectrum available to support the forthcoming myriad of wireless devices, networks, and applications that can drive the new economy.⁴⁴

These benefits are naturally accompanied by the exponential growth of mobile broadband demand, which has also justly been a primary telecommunications policy focus of the Administration and the Commission alike. Chairman Genachowski has been a stalwart leader for the advancement of mobile broadband with his call to action to make available additional spectrum for mobile broadband. As he has observed,

[M]obile broadband is being adopted faster than any computing platform in history. The number of smartphones and tablets being sold now exceeds the number of PCs. . . . Smartphones use twenty-four times the amount of data of traditional cell phones; other wireless devices, like tablets, can use more than 122 times the data.⁴⁵

In the Chairman’s words, “[t]his explosion in demand for spectrum is putting strain on the limited supply available for mobile broadband, leading to a spectrum crunch.”⁴⁶

The National Broadband Plan, for its part, acknowledges the underutilized nature of MSS spectrum and recognizes that it must be a key element of any plan to optimize spectrum for mobile broadband. The National Broadband Plan observes that MSS spectrum represents a significant amount of bandwidth with propagation characteristics suitable for mobile broadband

⁴³ The White House, Presidential Memorandum: Unleashing the Wireless Broadband Revolution (June 28, 2010) (“Presidential Memorandum”), <http://www.whitehouse.gov/the-press-office/presidential-memorandum-unleashing-wireless-broadband-revolution>.

⁴⁴ *Id.*

⁴⁵ Julius Genachowski, Chairman, FCC, Remarks at Mobile Future Forum, Washington, D.C., at 5 (Mar. 16, 2011), http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-305225A1.pdf.

and goes on to conclude, “[f]rom the standpoint of promoting broadband through increased use of the MSS spectrum, the FCC can take action to accelerate terrestrial deployments in the MSS bands.”⁴⁷

The Commission has started taking steps to help realize the potential of this spectrum. Earlier this year, the Commission adopted an MSS/ATC *Report and Order* “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.”⁴⁸ First, the Commission added co-primary Fixed and Mobile allocations to the 2 GHz MSS band in order to “lay the groundwork for more flexible use of the band, including for terrestrial broadband services, in the future.”⁴⁹ Second, “[i]n contemplation of [MSS] spectrum being used for terrestrial wireless services,” the Commission extended its secondary-markets leasing rules to MSS spectrum used for ATC.⁵⁰

2. DISH’s Plan

DISH plans to deploy an MSS/ATC system using the full 40 MHz of S-band spectrum with in-orbit active and spare capacity on TerreStar’s T-1 and DBSD’s G-1 satellites, subject to grant of TerreStar’s and DBSD’s modification applications and waiver requests, and using the latest in satellite and terrestrial technologies. These broadband services will be offered over a single, technically integrated network for all satellite and terrestrial traffic. The offerings could

⁴⁶ *Id.*

⁴⁷ National Broadband Plan at 88-89.

⁴⁸ 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, *Report and Order*, 26 FCC Rcd. 5710, 5710 ¶ 1 (2011).

⁴⁹ *Id.* at 5710 ¶ 2.

⁵⁰ *Id.* at 5710 ¶ 1.

consist of mobile, portable, or fixed broadband services individually or a combination thereof. DISH expects that the consumer equipment will include broadband-capable tablet computers, among other devices. Once the network is deployed, consumers will be able to use their devices for high-speed Internet access as well as a myriad of IP-based, over-the-top applications, including video. DISH anticipates offering broadband services both on a stand-alone basis and in a consumer-friendly bundle with its multichannel video services.

As part of its offering, DISH intends to continue supporting the GENUS™ handset phone (including, among other things, sales, marketing, technical assistance, and software and network maintenance) unless and until a new satellite/terrestrial hybrid device can be developed and deployed by DISH. Future iterations of the GENUS™ phone (or a successor device) may also feature improved interoperability with DBSD's G-1 satellite – the current GENUS™ already has a level of operability with that satellite.

3. Resulting Benefits and a Much Needed Check on Incumbents' Market Power

This transaction represents an important first step in obtaining spectrum necessary to establish DISH as a viable provider of mobile broadband services. Although still modest in comparison to the holdings of many incumbent mobile broadband providers, the spectrum assignments contemplated by the TerreStar and DBSD transactions, taken together, provide an essential foundation for DISH's ability to compete against them.

As DISH explained when it filed its application to acquire control over DBSD, DISH has been exploring the amount of spectrum necessary to fulfill the bandwidth demands of mobile broadband service and create a viable stand-alone provider.⁵¹ In this respect, DISH believes that each of the two 2 GHz MSS assignments likely would not be enough, standing alone, to support

⁵¹ DISH-DBSD Application at 15.

a robust nationwide service. Although the combination of the two 2 GHz assignments will yield a total of 40 MHz of spectrum and will allow DISH to compete to some extent against the terrestrial mobile broadband incumbents, DISH will potentially be facing other CMRS and MSS players with far more significant spectrum holdings for mobile broadband.⁵² For example, LightSquared now claims that it controls up to 59 MHz of spectrum.⁵³ As for major CMRS providers, as of January 2011, Sprint controlled an average of 133.2 MHz, and Verizon Wireless (“Verizon”) commanded more than 87 MHz of spectrum in most of the largest markets in the country, while AT&T boasted approximately 82 MHz, and T-Mobile was in control of 50.4 MHz.⁵⁴ The ability to combine the 2 GHz MSS spectrum, if coupled with the regulatory flexibility needed to implement DISH’s plans as requested in this Application, would further enhance the effectiveness and competitiveness of DISH’s proposed broadband service offerings.

A 2x20 MHz spectrum assignment, moreover, will allow DISH to deploy an advanced 4G network and maximize its spectrum efficiency. As part of its broadband availability model,

⁵² DISH’s subsidiary, Manifest Wireless, LLC, holds licenses for 6 MHz of 700 MHz spectrum (Block E) in 170 of 178 of the Basic Economic Areas (“BEAs”) throughout the country, which could be used to support a mobile broadband network. These 700 MHz E Block licenses cover all of the nation’s BEAs except for New York City, Los Angeles, San Francisco, Boston, Philadelphia, Guam, American Samoa, and the Gulf of Mexico. Certain DISH and EchoStar affiliates also hold Multichannel Video and Data Distribution Service licenses in the 12.2 – 12.7 GHz band and Local Multipoint Distribution Service licenses in the 29 GHz band.

⁵³ Lightsquared, Press Release, LightSquared Delivers Notice to Inmarsat Triggering Phase 2 of Re-Banding of L-Band Spectrum in North America (Jan. 28, 2011) (“When Phase 2 is fully executed, LightSquared will have the use of up to 59 MHz of terrestrial and L-Band ATC spectrum over the continental United States and Canada to operate its nationwide integrated 4G-LTE and satellite network.”).

⁵⁴ In its recent application for control of certain Qualcomm spectrum, for example, AT&T claims a per-transaction average of 82 MHz of spectrum available to it, and attributes available holdings of 133.2 MHz, 87.7 MHz, and 50.4 MHz to Sprint, Verizon, and T-Mobile, respectively. *See* AT&T Mobility Spectrum and Qualcomm Incorporated Seek FCC Consent to the Assignment of Lower 700 MHz Band Licenses, WT Docket No. 11-18, Application of AT&T, Exhibit 1, at 30-31 (filed Jan. 13, 2011).

the Commission used a 2x20 MHz frequency pairing as the baseline wireless broadband network because of its technical superiority.⁵⁵ As the Commission noted in that analysis, a 20 MHz carrier is more efficient in part because wider bands enable better statistical multiplexing.⁵⁶ As a result, “the capacity with a single 2x20 MHz carrier is 20 percent higher than with two 2x10 MHz carriers.”⁵⁷ The spectrum efficiency of a 2x20 MHz allocation will enable DISH to offer much improved wireless broadband to consumers.

DISH plans to deploy its network based on the LTE Advanced standard from the outset for its next generation MSS/ATC operations.⁵⁸ LTE Advanced is the focus of standardization work by vendors and carriers in 3GPP for broadband wireless communications globally, and commercial devices are expected to be generally available by 2014. As proposed, LTE Advanced significantly increases the capacity of wireless networks relative to current LTE systems, with downlink capacity that can meet the growing demand for wireless broadband by using the combination of advanced interference management techniques, heterogeneous networks that optimize system capacity, and the combining of radio carriers to generate higher degrees of spectral efficiency than current LTE systems.

One of the key advantages of LTE Advanced is its support for heterogeneous networks composed of cells of many different sizes and strengths. Such networks are more spectrally

⁵⁵ The Broadband Availability Gap, OBI Technical Paper No. 1, at 60, 73, 80 (April 2010) (noting that a 2x20 MHz frequency pairing has more capacity per MHz than narrower allocations).

⁵⁶ *Id.* at 73.

⁵⁷ *Id.* (citing QUALCOMM, Europe, Ericsson, Nokia and Nokia Siemens Networks in 3GPP TSG-RAN WG1 *in Text Proposal for TR on System Simulation Results*, http://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_53/Docs/R1-082141.zip).

⁵⁸ LTE Advanced is the name for LTE Release 10 and beyond. Today’s commercially deployed LTE networks generally use LTE Release 8. *See* Qualcomm August 2011 Presentation of LTE

efficient than today's homogeneous networks. Heterogeneous networks increase geographic re-use of spectrum in high-traffic, dense user areas through additional use of "pico" and "femto" cells, while still permitting wide coverage in less dense, lower traffic areas using more traditional "macro" cells. Networks incorporating pico and femto cells are expected to become much more efficient with the availability of LTE Advanced commercial devices, and their improved efficiencies will be a key part of increasing network capacity as network designers approach the theoretical limits of how much data can be packed into a single wireless signal. Future releases of LTE Advanced are expected to utilize advanced interference management technology to enable a device to communicate with multiple base stations at the same time. This would allow users to seamlessly transition through these topologically complex wireless networks and therefore facilitate optimal integration with MSS. In short, this innovative technology will allow DISH's initial deployment to use the most advanced, spectrally efficient technology, and generate significant public interest benefits. Notably, to capture the efficiencies of an LTE Advanced network, network rollout and device availability must go hand in hand.

To be sure, these benefits will be no panacea for all of the ills afflicting the increasingly concentrated CMRS market today, and particularly for the problems that the proposed AT&T/T-Mobile combination⁵⁹ bodes for competition. DISH's plan is threatened by that transaction; it would produce the nation's single largest CMRS provider and would result in a virtual duopoly within the mobile voice and data services market, with the top two carriers, AT&T and Verizon, controlling almost 80 percent of the market and over 90 percent of the industry's free cash

Advanced, Slide 6, *available at* <http://www.qualcomm.com/documents/lte-advanced-global-4g-solution> (last visited Aug. 10, 2011). S-Band is not included in the LTE Release 8 standard.

⁵⁹ Applications of AT&T Inc. and Deutsche Telekom AG, for Consent to Assign or Transfer Control of Licenses and Authorizations, WT Docket No. 11-65 (filed Apr. 21, 2011).

flow.⁶⁰ As the Commission has previously recognized, entrants into mobile voice and data services already face “major structural features that may act as entry barriers.”⁶¹ Permitting this level of market consolidation, however, would raise significant additional barriers. In particular, at 80 percent market concentration, the top two CMRS providers would be able to hinder DISH’s ability to gain subscribers by temporarily subsidizing their rates, withholding critical interconnection and roaming agreements, and otherwise abusing their market power to thwart any potential entrant into the market.⁶² Even for a company like DISH, with its long history of taking on incumbents and bringing competition to new markets, these barriers would be high indeed. Therefore, quick approval of these transactions and related waivers need not justify any less vigilance in the Commission’s evaluation of the proposed AT&T/T-Mobile combination.

D. The Transaction Will Promote, and Not Harm, Competition

Instead of eliminating any competitive choice, the TerreStar and DBSD transactions will create a strengthened competitor for the provision of MSS voice and data services, MSS/ATC service, and 4G mobile broadband services. In all potentially relevant markets, DISH will face strong competition from other MSS operators and from the formidable mobile broadband incumbents. The transaction will also promote competition among MSS providers by

⁶⁰ See Cecilia Kang, *Leap Wireless Opposes AT&T Bid to Buy T-Mobile*, Washington Post, May 24, 2011, available at http://www.washingtonpost.com/blogs/post-tech/post/leap-wireless-opposes-atandt-bid-to-buy-t-mobile/2011/05/23/AFDSeQAH_blog.html (last accessed August 19, 2011) (if AT&T’s takeover of T-Mobile is approved, “about 90 percent of pre-tax earnings for the wireless industry would go to AT&T and Verizon Wireless”); DISH Network LLC, Petition to Deny, Applications of AT&T Inc. and Deutsche Telekom AG, For Consent to Assign or Transfer Control of Licenses and Authorizations, WT Docket No. 11-65, at 4 (filed May 31, 2011) (“DISH Petition to Deny AT&T-T-Mobile Merger”).

⁶¹ 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, WT Docket No. 10-133, *Fifteenth Report*, FCC 11-103 ¶ 56 (rel. June 27, 2011) (“*Fifteenth Mobile Competition Report*”).

⁶² DISH Petition to Deny AT&T-T-Mobile Merger at 9.

eliminating an MSS cross-ownership interest in the U.S. market – namely, the interest in TerreStar held by Harbinger Capital Partners Funds, which currently controls fellow MSS licensee LightSquared. Moreover, the combined TerreStar and DBSD spectrum is significantly below the levels approved by the FCC in the *Harbinger-SkyTerra Order*.⁶³

1. MSS and MSS/ATC

The proposed transaction will not adversely affect competition for MSS or MSS/ATC services. Neither DISH nor its affiliates currently provide MSS services. Further, DBSD currently does not provide commercial MSS. And, while TerreStar is an active participant in the MSS industry, its services are themselves still in the early stages. In addition to TerreStar, another five operators – Inmarsat PLC, LightSquared, Iridium Communications Inc., Globalstar, Inc. (“Globalstar”), and Orbcomm Inc. – all provide commercial MSS.⁶⁴ As a result, DISH’s proposed acquisition of DBSD and of the TerreStar Debtors’ authorizations and assets will not reduce the number of actual MSS competitors or the competition among active MSS participants.

MSS/ATC services, on the other hand, have yet to materialize. Most MSS operators have, or may obtain, ATC authorizations, and currently, three are authorized to provide ATC services in the United States: LightSquared, TerreStar, and DBSD.⁶⁵ Currently, neither TerreStar nor DBSD provides ATC service, and therefore their combination will not reduce the number of current MSS/ATC competitive choices. LightSquared, for its part, appears to be on the verge of

⁶³ SkyTerra Communications, Inc., and Harbinger Capital Partners Funds, *Memorandum Opinion and Order and Declaratory Ruling*, 25 FCC Rcd. 3059 (2010) (“*Harbinger-SkyTerra Order*”).

⁶⁴ See *id.* at 3078-79 ¶¶ 33-36 (describing the MSS offerings of current MSS competitors).

⁶⁵ Until recently, Globalstar was also authorized to provide ATC services over its Big LEO MSS spectrum, which it had leased to Open Range. The Commission, however, has suspended for now Globalstar’s authority for failing to meet the Commission’s gating requirements within the allotted timeframe. See Globalstar Licensee LLC, Application for Modification of License to Extend Dates for Coming into Compliance with Ancillary Terrestrial Component Rules, *Order*, 25 FCC Rcd. 13114, 13115 ¶ 1 (2010).

deploying an ATC network pursuant to its MSS/ATC waiver, which is conditioned on resolving interference issues related to adjacent-band Global Positioning System (“GPS”) operations.⁶⁶

Ultimately, the promise of MSS/ATC has yet to be fully realized for four principal reasons:

- Use of the maritime band by LightSquared and Inmarsat has been hampered by technical issues, including the interleaving of the L-band and the severe interference claimed by systems operating in adjacent spectrum;
- The MSS/ATC spectrum has been balkanized into relatively small assignments not optimized for delivering the broadband services desired by consumers;
- Financial difficulties, including the costs associated with market entry and access to sufficient funds for business plans, have pushed a number of the licensees into bankruptcy; and
- Licensees have been unable to achieve a critical mass of subscribers to create economies of scale to reduce costs and increase penetration.

The proposed TerreStar and DBSD transactions mitigate these problems substantially and advance the public interest with respect to effective utilization of the 2 GHz band. The combination and use of the 2 GHz band for MSS/ATC eliminates many of the technical coordination issues that have plagued other MSS bands. Use of the band also does not give rise to the GPS interference issues that have hampered the use of the L-band.⁶⁷ Moreover, the combination of the two 2 GHz MSS spectrum assignments helps to mitigate the bandwidth constraints that have limited the utility of these bands for broadband services. Further, DISH has

⁶⁶ LightSquared Subsidiary LLC, Request for Modification of its Authority for an Ancillary Terrestrial Component, *Order and Authorization*, 26 FCC Rcd. 566 (2011) (“*LightSquared ATC Order*”).

⁶⁷ See National Executive Committee, National Space-Based Positioning, Navigation, and Timely System Engineering Forum, Assessment of LightSquared Terrestrial Broadband System Effects on GPS Receivers and GPS-dependent Applications, *filed in* File No. SAT-MOD-20101118-00239, § 9-7 (filed Jul. 6, 2011) (suggesting that using the 2 GHz band for ATC services “could resolve existing interference issues” currently experienced by LightSquared).

adequate financial, technical, and operational resources and demonstrated ability to deliver on the broadband potential of these spectrum bands.

In any event, as the Commission recognized in the *Harbinger-SkyTerra Order*, the MSS industry is “not yet mature enough to allow [the Commission] to confidently assess competitive effects.”⁶⁸ While MSS providers have been in considerable flux,⁶⁹ one thing is certain: all MSS providers face competition from other MSS providers as well as from a multitude of other sources.⁷⁰ As a result, any potential competitive harms would be too “difficult and inherently speculative” to merit serious consideration.⁷¹

2. Mobile Broadband Services

As noted above, Chairman Genachowski repeatedly has stressed the benefits of mobile broadband: “no sector now holds more promise for opportunity, for economic growth, for improvements to our quality of life, and for our global competitiveness.”⁷² In the Chairman’s words, mobile broadband “could surpass all prior platforms in [its] potential to drive economic growth and opportunity.”⁷³ As the Chairman also stated recently:

Mobile broadband can also power innovations in areas like public safety, education, health care, and energy – including 21st century devices that can help police and firefighters save lives – digital textbooks and software that can help teachers teach and students learn – remote monitoring technologies for people with diabetes or heart disease – and smart-grid technologies that can reduce energy costs and increase energy security. . . .

⁶⁸ *Harbinger-SkyTerra Order*, 25 FCC Rcd. at 3077 ¶ 29.

⁶⁹ *Fifteenth Mobile Competition Report* ¶ 39 (“The mobile satellite service industry is undergoing major technological and structural changes.”).

⁷⁰ *See, e.g., Harbinger-SkyTerra Order*, 25 FCC Rcd. at 3080-81 ¶ 41.

⁷¹ *Id.* at 3076 ¶ 29.

⁷² *See, e.g., Julius Genachowski, Chairman, FCC, Remarks as Prepared for Delivery, CTIA Wireless 2011*, at 4 (Mar. 22, 2011).

⁷³ *Id.* at 5.

The opportunities of mobile communications are huge. We need to seize them.⁷⁴

Further, as the Commission concluded in the *Fifteenth Mobile Competition Report*, construction of “a satellite/terrestrial 4G mobile broadband network . . . will help enhance competition among current mobile wireless providers.”⁷⁵ This is consistent with the Commission’s sentiment, offered in several wireless competition reports, that MSS operators offering “high-speed data services, especially in connection with terrestrial networks using their Ancillary Terrestrial Component (ATC) authority[,] . . . could potentially enhance competition in the provision of mobile terrestrial wireless services.”⁷⁶

The market for mobile voice, low-speed data, and high-speed data services is occupied today primarily by four nationwide incumbents, two of which are now proposing to merge. Together, these providers boast over 273 million subscribers nationwide as of 2010 and have an overwhelmingly commanding presence in mobile voice services.⁷⁷ And the level of concentration in the mobile wireless services industry, including CMRS, is at a high point and still increasing.⁷⁸ This consolidation is a major factor as to why the Commission has not been able to conclude that effective competition exists with respect to mobile wireless services, including CMRS. As Commissioner Copps has remarked, this consolidation amounts to “darkening clouds over the state of mobile competition” and requires the Commission to

⁷⁴ Julius Genachowski, Chairman, FCC, Remarks on Spectrum as Prepared for Delivery, White House (Apr. 6, 2011).

⁷⁵ *Fifteenth Mobile Competition Report* ¶ 39 n.102 (quoting *Harbinger-SkyTerra Order*, 25 FCC Rcd. at 3087 ¶ 62).

⁷⁶ *Id.* ¶ 39.

⁷⁷ *See id.* ¶ 31 & Table 3.

⁷⁸ *Id.* ¶¶ 2, 51-52 & Table 9.

“examine areas where [it] can act to encourage mobile competition.”⁷⁹ This concentration is only likely to increase further if plans for two of the four largest providers to merge are consummated because such a transaction would “produce the single largest carrier, with an estimated 43 percent market share; at that point, the top two carriers would control almost 80 percent of the market.”⁸⁰ Likewise, the provision of high-speed data services is dominated today by wireline cable companies and telephony providers. The role of the major CMRS providers in high-speed data services is also in the ascendancy and will only expand as 4G rollouts continue. The new, nationwide competition that a successful MSS/ATC deployment by DISH will introduce to CMRS providers will help offset increasing consolidation among terrestrial mobile broadband incumbents.

The reverse also is true. DISH will be subject to competitive pressure from incumbent CMRS carriers even if it proves unable to bring competitive pressure to bear upon these legacy operators. CMRS providers will continue to constrain the prices MSS/ATC operators can charge for their services. The ubiquitous availability of 3G services, and the coming near-ubiquity of 4G services, offered by the major CMRS providers mean that MSS/ATC providers will face direct competition nationwide.

Moreover, a combination of DBSD’s and TerreStar’s spectrum would create MSS spectrum holdings far below the levels held by major CMRS carriers and the levels that the Commission evaluated in the *Harbinger-SkyTerra Order*. As DISH noted already in its application to acquire control over DBSD, if TerreStar and DBSD were to be combined, the

⁷⁹ *Id.* at 305 (Commissioner Copps, concurring).

⁸⁰ *See, e.g.*, DISH Petition to Deny AT&T–T-Mobile Merger at 4; Sprint Nextel Corporation, Petition to Deny, Applications of AT&T Inc. and Deutsche Telekom AG, For Consent to Assign or Transfer Control of Licenses and Authorizations, WT Docket No. 11-65, at 8 (filed May 31, 2011).

combined spectrum of TerreStar and DBSD would total only 40 MHz and, even when adding Manifest's 6 MHz of E Block 700 MHz spectrum (which does not provide national coverage, given that Manifest's 700 MHz holdings do not include rights in the nation's largest metropolitan regions), would total only 46 MHz of spectrum. This is less than half of the 95 MHz CMRS spectrum screen that the Commission uses in wireless acquisitions as a threshold to determine if a concentration warrants additional competitive inquiry.⁸¹ It is an even smaller fraction of the spectrum than the large CMRS carriers have at their command in virtually every local market. Finally, it is significantly less than the spectrum that Harbinger had an interest in as a result of the *SkyTerra* proceeding (as much as 86 MHz).⁸²

3. Fixed-Satellite Broadband Access

The recent acquisition of Hughes by DISH's affiliate EchoStar will not lead to competitive harm because Hughes's FSS broadband access service is not currently a full substitute for mobile broadband services to be provided over the 2 GHz MSS spectrum. The services that are offered, or could be offered in the future, by MSS and FSS providers are at best only imperfect substitutes for each other. The two services are fundamentally different: one is a fixed service; the other is a mobile one. While MSS/ATC service could have fixed uses, MSS

⁸¹ AT&T Inc. and Centennial Communications Corp., *Memorandum Opinion and Order*, 24 FCC Rcd. 13915, 13936 ¶ 46 (2009).

⁸² *Harbinger-SkyTerra Order*, 25 FCC Rcd. at 3076-77 ¶ 29 (approving a transfer of control that gave Harbinger control over SkyTerra, one of the two L-band operators, in addition to its then extant interest in Inmarsat, the other L-band operator, and its status as the largest shareholder of TSN). LightSquared's authorization extends to as much of the 66 MHz of L-band spectrum as it can coordinate under the Mexico City Memorandum of Understanding. *See Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz, the L-band, and the 1.6/2.4 GHz Bands, Memorandum Opinion and Order and Second Order on Reconsideration*, 20 FCC Rcd. 4616, 4629 ¶ 38 (2005) ("In the L-band, unlike other MSS bands, each MSS operator is licensed for the entire band, but must coordinate with other users of the L-band to determine which channels each MSS operator may use."). Further, it was only

spectrum is generally more appropriate for the provision of mobile voice and data applications to be complemented by a mobile terrestrial service at higher data rates, while the Hughes spectrum is better suited for fixed satellite broadband services at higher data rates than the satellite portion of MSS/ATC service.

IV. REQUESTED FLEXIBILITY

A. Waiver Requests and Criteria

To increase its flexibility to fully and efficiently utilize 2 GHz MSS spectrum to provide terrestrial mobile broadband while continuing to provide a robust satellite offering, TerreStar requests certain waivers of the ATC rules addressed herein.

The Commission may waive its rules for good cause shown, particularly where strict compliance with a rule is inconsistent with the public interest when taking “into account considerations of hardship, equity, or more effective implementation of overall policy,”⁸³ especially when deviation on an individual basis does not require “evisceration of a rule by waivers.”⁸⁴ The Commission’s grant of these waivers will enable DISH to make commitments regarding its terrestrial mobile broadband network and service deployments.

First, consistent with FCC precedent,⁸⁵ the Applicants request a waiver of the integrated service requirement to allow DISH to offer dual-mode terminals to all customers who want them, but make single-mode terrestrial terminals available to customers who do not need or desire the satellite function. *Second*, the Applicants request a waiver of the spare satellite requirement. *Third*, the Applicants request that the Commission harmonize certain regulatory requirements

subsequent to approval of the SkyTerra acquisition that Harbinger divested its interest in Inmarsat. As for TerreStar, its authorization covers 20 MHz in the 2 GHz MSS band.

⁸³ 47 C.F.R. § 1.3; *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969).

⁸⁴ *WAIT Radio*, 418 F.2d at 1159.

applicable to TerreStar and DBSD by extending across the entire 2 GHz MSS allocation various waivers of the FCC's rules previously obtained by DBSD.

The Commission should act here on the National Broadband Plan's recommendation that "[t]he FCC should take actions that will optimize licensee flexibility sufficient to increase terrestrial broadband use of MSS spectrum, while preserving market-wide capability to provide unique mission-critical MSS services."⁸⁶ Grant of these waiver requests will better serve the public interest and the goals of the Commission's MSS/ATC policy than would strict application of the ATC rules. DISH emphasizes that it is asking for a waiver of the Commission's rules in the individual circumstances of this case, in light of its plan, the availability of the GENUS™ phone and its future iterations, the unique features of the 2 GHz band and its existing licensees, and DISH's commitment to MSS services. It is not asking for the application of new or different rules for MSS/ATC services.⁸⁷

B. "Integrated Service" Requirement

The Applicants request that the Commission waive application of the ATC "integrated service" rule to permit TerreStar and DISH to provide dual-mode terminals to customers who want them, and single-mode terrestrial terminals to customers who do not want the satellite function. Allowing TerreStar and DISH to provide single-mode terrestrial terminals to customers who have no need for satellite functions will achieve significant public benefits, and will do so by better serving the important, underlying policy. TerreStar and DISH are committed

⁸⁵ See *LightSquared ATC Order*, 26 FCC Rcd. 566.

⁸⁶ National Broadband Plan at 87.

⁸⁷ Compare *WAIT Radio*, 418 F.2d at 1153 (noting that the Commission may grant a waiver of its rules for good cause shown), with *Cities of Anaheim, Riverside, Banning, Colton and Azusa, California v. FERC*, 723 F.2d 656, 659 (9th Cir. 1984) (holding that an agency may not use an adjudication to circumvent the Administrative Procedure Act's rulemaking procedures, by, for example, amending a rule).

to securing the opportunity to deploy a terrestrial broadband network and will provide substantial satellite service – however, relief from the integration requirement is an important component of DISH’s plan.

Because DISH now intends to acquire both TerreStar’s and DBSD’s authorizations, satellites, and facilities, DISH will be able to offer consumers choice by continuing to make available the existing dual-mode GENUS™ phone (or a successor device) to customers who want the satellite function, and also make available single-mode devices (terrestrial only) for other customers. Thus, rather than severely restricting consumers’ choice of devices, DISH plans to provide customers with greater choice in devices according to their preferences. Furthermore, DISH will take steps to ensure that customers are aware that both satellite and integrated, satellite-terrestrial service options are available to them.

Today, a mobile voice and data provider’s ability to attract customers depends in large measure on its ability to provide its customers with the types of devices that best suit their needs. In a world of lighter-and-smaller-is-better, consumers prefer lighter weight handsets with longer battery life. In addition, the requirement to make every device dual-mode severely limits a provider’s ability to enter into arrangements with multiple device and equipment manufacturers, thereby limiting consumer choice and severely impairing the business case economics.

Such a lack of choice compels consumers to shoulder the associated additional costs, while hampering the service’s competitiveness by significantly limiting DISH’s ability to attract customers. This does not make sense, particularly against the backdrop of increasing consolidation in the CMRS arena, and does not further the Commission’s goal of expanding the use of MSS/ATC service nationwide. To the contrary, it disserves the Commission’s well-established policy in favor of efficient use of the spectrum. Waiver of the integrated service rule

in these circumstances will better serve the underlying Commission policy of creating a robust MSS service than would strict adherence to it. As noted above, the flexibility sought will allow DISH to acquire the critical mass of MSS/ATC subscribers necessary to create a viable terrestrial service offering. That mass of subscribers, in turn, will allow DISH to support the integrated network upon which its MSS offering also depends, lessening the per-subscriber cost of maintaining the network. In other words, by helping to ensure the viability of DISH's MSS/ATC service through the provision of flexibility, the Commission will also help ensure a viable and substantial MSS service.

Finally, as detailed below, if it is awarded the flexibility requested in this Application, DISH is also prepared to commit to other significant measures to ensure that the purpose of the integrated service requirement will be met. Among other things, DISH can commit to ensuring a sufficient amount of satellite capacity to support a nationwide MSS service. In addition, DISH can commit to a realistic terrestrial mobile broadband network buildout schedule that would provide MSS/ATC service to millions of Americans and that would be consistent with FCC precedent and based upon buildout principles established in the Sprint/Nextel and Sprint/Clearwire transaction decisions.⁸⁸ Furthermore, the network will be technically integrated, with all network traffic, whether terrestrial or satellite, being processed and handled by the same integrated network and support systems.

In the National Broadband Plan, the Commission rightly observed that its gating criteria had "made it difficult for MSS providers to deploy ancillary terrestrial networks."⁸⁹ This

⁸⁸ Nextel Commc'ns, Inc., and Sprint Corp., *Memorandum Opinion and Order*, 20 FCC Rcd. 13967 (2005) ("*Sprint-Nextel Order*"); Sprint Nextel Corp. and Clearwire Corp., *Memorandum Opinion and Order*, 23 FCC 17570 (2008) ("*Sprint-Clearwire Order*").

⁸⁹ National Broadband Plan at 88.

militates for flexible application of the integrated service requirement and favorable consideration of this waiver request, subject to the safeguards described above.

C. Spare Satellite Requirement

Applicants also request a waiver of the Commission's spare satellite "gating" requirement.⁹⁰ Under that rule, an MSS/ATC operator must have a spare satellite available on the ground within one year after commencing ATC operations and launch that satellite in the first commercially reasonable launch window following the failure of an MSS satellite.⁹¹ The Commission adopted the spare satellite rule "to ensure that there would be redundancy of satellite service, while at the same time, retaining ATC operations as an 'ancillary' service in the event of launch failures or satellite malfunctions."⁹²

A waiver of the spare satellite requirement in this case will not undermine the purpose of the rule. That purpose is to ensure that MSS operators continue investment and innovation in their satellite systems, and that they move quickly to restore service following a satellite failure.⁹³ The highest risk of such failure occurs during the first year after launch, which covers the risk areas of launch, deployment, and early life failures. The TerreStar-1 satellite has passed that risk period, meets its specifications, remains in good health, and is expected to provide uninterrupted service for the rest of its full design life of 15 years. As a result, the need to launch a replacement satellite before the satellite's end of life is already only a remote possibility.

⁹⁰ 47 C.F.R. § 25.149(b)(2).

⁹¹ *Id.*

⁹² Mobile Satellite Ventures Subsidiary LLC, Application for Limited Waiver of On-Ground Spare Satellite Rule, *Memorandum Opinion and Order*, 22 FCC Rcd. 20548, 20549 ¶ 4 (2007) ("*MSV Waiver Order*").

⁹³ 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, 2006 ¶ 81 (2003).

Moreover, given the significant capacity available as a result of potential interoperabilities between TerreStar's T-1 and DBSD's G-1 satellites, it is likely that any capacity shifting or redeployment that might be needed for business concerns could be accommodated with limited additional support.

As noted above, DISH plans to deploy an MSS/ATC system using the full 40 MHz of MSS spectrum with in-orbit active and spare capacity on TerreStar's T-1 satellite (currently positioned at 111° W.L.) and DBSD's G-1 satellite (currently positioned at 92.85° W.L.). As a result, post-transaction, DISH will have two state-of-the-art satellites in orbit and capable of providing MSS service in the S-Band over all 50 states, Puerto Rico, and the U.S. Virgin Islands.

On the other hand, requiring DISH to complete and earmark two satellites as spares – one for each of DBSD's and TerreStar's authorizations – would be to require expenditure of over half a billion dollars and would serve no discernible policy. Worse, strict compliance with the spare satellite requirement would only serve to divert DISH's resources away from developing its hybrid MSS/ATC network. This is an unnecessary and unreasonable expense that would jeopardize the business case for entering the market in the first place. In particular, it would not increase the reliability of the MSS service to be provided and would, in fact, unnecessarily lengthen any potential service outage. Indeed, as the Commission noted in the *MSV Waiver Order*, launch of a spare satellite may take as long as 18 months,⁹⁴ during which time customers would have limited or no service.

This is not a case in which a nascent satellite operator is undertaking its first-ever satellite venture on a shoe-string. Managing a satellite fleet is at the core of DISH's business. DISH has a long history of building, launching, and operating satellites. DISH currently ensures continued

⁹⁴ *MSV Waiver Order*, 22 FCC Rcd. at 20550 ¶ 8.

operations of a satellite system relied upon by approximately 14 million households in a market where interruptions of service can be fatal to customer satisfaction. DISH has consistently done so without being subject to a ground spare requirement. This request amounts to no more than allowing DISH the flexibility to do with its MSS satellites what it does on a daily basis with its DBS satellites.

The Commission waived the spare satellite rule in the *MSV Waiver Order* based on a showing that each of the two operational L-band satellites would provide sufficient backup capacity for the other.⁹⁵ The Commission concluded that a waiver in that case “will strike an appropriate balance between ensuring continuity of satellite service to customers and minimizing cost burdens on the satellite operator.”⁹⁶ A waiver in the present circumstances is equally justified, as strict compliance with the rule would not serve the public interest, and the requested waiver more effectively implements the Commission’s overall policy.

D. Harmonization of TerreStar and DBSD Regulatory Treatment

In conjunction with this Application, Applicants request that the Commission harmonize the ATC service rules applicable to the 2 GHz band by granting certain waivers of the ATC base station and mobile terminal technical requirements, most of which have already been granted to DBSD and requested in similar form by TerreStar in a modification filed on June 27, 2010.⁹⁷ Specifically, Applicants request the following waivers, all but one of which (the Section 25.252(b)(2) request) were previously requested in the referenced modification request:

⁹⁵ *Id.* at 20550-51 ¶¶ 8, 12.

⁹⁶ *Id.* 20551 ¶ 12.

⁹⁷ *See* TerreStar Networks Inc., File No. SES-MOD-20100727-00963 (filed July 27, 2010) (“TerreStar Modification Request”) (requesting modification of its ATC authority to harmonize waivers with DBSD).

Section	Rule	Waiver Request
25.252(a)(1)	[ATC base stations shall not] Exceed EIRP of -100.6 dBW/4 kHz for out-of-channel emissions at the edge of the MSS licensee's selected assignment.	[ATC base stations shall not] Exceed an out-of-channel emissions limit at the edge of the MSS licensee's selected assignment specified by an attenuation of the transmitter power (P), in watts, by a factor of at least $43 + 10 \log (P)$ dB. ⁹⁸
25.252(c)(2)	Emissions on frequencies lower than 1995 MHz and higher than 2025 MHz shall be attenuated by at least $70 + 10 \log P$. Emissions in the bands 1995-2000 MHz and 2020-2025 MHz shall be attenuated by at least a value as determined by linear interpolation from $70 + 10 \log P$ at 1995 MHz or 2025 MHz, to $43 + 10 \log P$ dB at the nearest MSS band edge at 2000 MHz or 2020 MHz respectively.	Emissions on frequencies higher than 2020 MHz shall be attenuated by at least $43 + 10 \log (P)$ dB. Emissions in the band 1995-2000 MHz shall be attenuated by at least a value as determined by linear interpolation from $70 + 10 \log (P)$ dB at 1995 MHz, to $43 + 10 \log (P)$ dB to the MSS band edge at 2000 MHz.

⁹⁸ Applicants request relief only to the same extent as the Commission chose to grant relief to DBSD – namely, only outside 133 km from a U.S. government earth station. *See* Letter from Adam Krinsky, Counsel to TerreStar Networks, Inc., Debtor-in-Possession, to Marlene H. Dortch, Secretary, FCC, *filed in* SES-MOD-20100727-00963 (July 18, 2011).

25.252(c)(4)	Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater.	Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e., 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.
25.252(a)(2)	[ATC base stations shall not] Exceed a peak EIRP of 27 dBW in 1.23 MHz.	[ATC base stations shall not] Exceed an EIRP of 32 dBW/MHz.
25.252(a)(3)	[ATC base stations shall not] Exceed an EIRP toward the physical horizon (not to include man-made structures) of 25.5 dBW in 1.23 MHz.	Waive rule. DISH's unification of the band eliminates concern over inter-party operational interference.
25.252(a)(5)	[ATC base stations shall not] Exceed an aggregate power flux density of -51.8 dBW/m ² in a 1.23 MHz bandwidth at all airport runways and aircraft stand areas, including takeoff and landing paths and all ATC base station antennas shall have an overhead gain suppression according to [Rule 25.252(a)(8)].	Waive rule. DISH's unification of the band eliminates concern over inter-party operational interference.

25.252(a)(8)	[ATC base stations shall not] Use ATC base station antennas that have a gain greater than 17 dBi and must have an overhead gain suppression according to [Table 1.]	Waive rule. DISH's unification of the band eliminates concern over inter-party operational interference.
25.252(b)(2)	[ATC mobile terminals shall] Limit out-of-channel emissions at the edge of a MSS licensee's selected assignment to an EIRP density of -67 dBW/4 kHz.	[ATC mobile terminals shall] Limit out-of-channel emissions at the edge of a MSS licensee's selected assignment to a limit specified by an attenuation of the transmitter power (P), in watts, by a factor of at least $43 + 10 \log(P)$ dB.

There is good cause for granting the requested waivers here. Indeed, these waivers are identical to those requested by DBSD and subsequently approved by the Commission on January 15, 2009,⁹⁹ and the Applicants agree to abide by the same limitations, restrictions, and conditions applicable to DBSD pursuant to its waiver, including that certain of these waivers are potentially subject to the Commission's adoption of service rules in the adjacent AWS bands. As a result, the Commission's rationale for granting those identical waivers applies with equal force here.

As described in TerreStar's previous modification request, the requested waivers of the base station EIRP spectral density, peak EIRP limit, EIRP toward the horizon, power flux density at runways, and overhead rules – laid out in Section 25.252(a)(1)-(3), (a)(5), and (a)(8) – create no interference concerns, largely because they were created to protect certain 2 GHz MSS operators from receiving interference from other operators.¹⁰⁰ Through this application, however, DISH now intends to unify the band by combining DBSD's and TerreStar's 2 GHz MSS holdings. This eliminates any inter-party operational interference concerns that may have

⁹⁹ See *DBSD ATC Order*, 24 FCC Rcd. at 185-89, 192-96 ¶¶ 41-49, 58-64, 69.

¹⁰⁰ TerreStar Modification Request at 7-11. With respect to Section 25.252(a)(1), the Applicants recognize the interests of U.S. Government agencies in protecting government earth stations from interference, and TerreStar is working with the National Telecommunications and Information Administration and related federal agencies on an operator-to-operator agreement.

otherwise arisen. As a result, the requested waivers will relieve DISH and TerreStar of these restrictions without threat of interference concerns.

As also explained in TerreStar's previous request for waiver of the mobile terminal attenuation requirements, a waiver of Section 25.252(c)(2) will not create significant risk of interference above the uplink band edge at 2020 MHz.¹⁰¹ The Commission has already granted DBSD this relief, and given that TerreStar's spectrum is some 10 MHz further from the uplink band edge at 2020 MHz, it will be, if anything, even easier to design the network to ensure that the requested limits can be met from this portion of the S-band.

Further, the requested waiver of the emission measurement requirement found in Section 25.252(c)(4) merely asks for an alternative measurement,¹⁰² which is currently used for PCS and AWS-1 terminals.¹⁰³ The Commission previously found that use of this alternative measurement would "have no adverse consequences" and constituted "the most appropriate way of measuring out-of-band emissions into adjacent spectrum."¹⁰⁴ Nothing has occurred since the Commission granted DBSD's waiver to alter this determination.

Finally, TerreStar adds one additional waiver request beyond those in its previous modification application: waiver of the limit on out-of-channel emissions under Section 25.252(b)(2). As noted above, DISH plans to unify the band, thereby eliminating any concern

¹⁰¹ TerreStar Modification Request at 12-13; Declaration of Stephen Thompson ¶ 8.

¹⁰² Although the Commission has adopted an OOB limit for ATC base stations under Section 25.252(a)(1), the measurement technique to be used to measure compliance with the rule is not specifically enumerated. The Applicants intend to demonstrate conformance with the base station limit using the same emission measurement technique that the Commission has previously approved to measure compliance with the equivalent requirement for handsets in the band. Declaration of Stephen Thompson ¶ 10; *DBSD ATC Order*, 24 FCC Rcd. at 195 ¶ 64 (citing 47 C.F.R. §§ 24.238(b), 27.53(g)(1)). The Applicants request that the Commission clarify that this measurement procedure is acceptable.

¹⁰³ TerreStar Modification Request at 13; Declaration of Stephen Thompson ¶ 9.