

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Service Rules for Advanced Wireless Services in the 2000-2020 MHz and 2180-2200 MHz Bands)	WT Docket No. 12-70
)	
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)	ET Docket No. 10-142
)	
Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz Bands)	WT Docket No. 04-356
)	

**COMMENTS OF NEW AMERICA FOUNDATION, PUBLIC KNOWLEDGE AND
CONSUMERS UNION**

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New America Foundation, Public Knowledge and Consumers Union (collectively, “Public Interest Organizations”) hereby file these comments in response to the Commission’s Notice of Proposed Rulemaking and Notice of Inquiry in the above-captioned proceedings (“AWS-4 NPRM”).¹ The Public Interest Organizations have a substantial history of advocacy for greater effective competition and consumer protections in the wireless industry. Greater competition lowers prices for consumers, improves consumer choice, encourages innovation, and enables greater citizen use of and participation in the democratic processes enabled by media and the Internet. The Public Interest Organizations support the Commission’s efforts to make more flexible-use spectrum available for advanced wireless services, but also believe the broader public interest is best served by assigning new licenses in a manner explicitly designed to promote mobile industry competition and more extensive use of fallow spectrum, particularly in rural and unserved areas.

SUMMARY

The undersigned Public Interest Organizations welcome the Commission’s effort to reallocate fallow Mobile Satellite Spectrum for more fully flexible licensing in a manner that holds the potential to promote wireless industry competition, innovation and consumer welfare. Commenters have in the past supported the substantively equivalent ATC waiver that the International Bureau granted to LightSquared Subsidiary LLC because of the compelling public interest conditions associated with the waiver and with the initial license transfer to SkyTerra

¹ *Service Rules for Advanced Wireless Services in the 2000-2020 MHz and 2180-2200 MHz Bands; 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; Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz Bands*, Notice of Proposed Rulemaking and Notice of Inquiry, WT Docket No. 12-70, ET Docket No. 10-142, WT Docket No. 04-356 (rel. March 21, 2012).

(LightSquared's predecessor in interest). Similarly, public interest commenters support the Commission's proposal to bypass competitive bidding and to make an equitable grant of new, flexible AWS-4 licenses to the incumbent 2 GHz MSS licensee, but only if the conditions attached to the grant recaptures for the public a substantial share of the multi-billion dollar value of the grant with obligations and safeguards that are equivalent to the public interest benefits that were attached to the similarly-situated L Band licensee.

The value of the proposed AWS-4 license grant and the risk that the spectrum could be "flipped" or leased out in a manner that would lessen rather than promote wireless industry competition and innovation are both so great that the Public Interest Organizations believe that conditions in addition to meaningful buildout requirements are appropriate to avoid unjust enrichment and to ensure that the public resource is actually used to promote competition, innovation and more affordable mobile broadband for the public. Specifically, the Commission should make its assignment of AWS-4 licenses subject to the following public interest conditions:

First, for the duration of the initial license period, the AWS-4 licensee must make up to 50 percent of its capacity available in each Economic Area for open wholesale leasing, or for roaming by other carriers, on a non-discriminatory basis at fair and reasonable rates. Since the Commission is withholding this spectrum from competitive bidding, and because it has revoked the ATC rights of the L Band Licensee (LightSquared), there is a compelling public interest in promoting both competition among wireless providers and innovation in the adjacent markets for wireless devices, applications and services by making the S Band's future LTE capacity available on fair and equitable terms.

Second, whether or not the AWS-4 licensee is required to make up to 50 percent of its capacity available for wholesale leasing and roaming, the Commission should require that the licensee seek Commission approval before making more than 25 percent of the licensee's data traffic capacity within any Economic Area available to any single carrier, or to any other entity, regardless of whether that capacity is accessed on a wholesale basis, roaming basis, under a spectrum manager lease arrangement, or as part of a network sharing agreement.

Third, any buildout requirements should be augmented by a "use it or share it" license condition that would permit other parties to make use of unused AWS-4 spectrum on a localized basis until such time as the licensee actually deploys service. The frequency bands covered by the new AWS-4 licenses should be registered in the TV Bands Database and available for non-interfering use by devices and/or systems that are multi-band, equipped with GPS, capable of periodically checking the database, and on notice that they will be denied permission to continue using the S Band frequencies in a local area once the licensee notifies the Commission and a TV Bands Database operator of the geographic areas where actual service will commence.

Fourth, the Commission should impose unjust enrichment penalties on sale of the AWS-4 licenses to either of the two largest mobile carriers. This condition would prevent DISH from unjustly realizing a windfall if it transfers or assigns the spectrum to one of the two largest CMRS and wireless data carriers within a specified number of years. This condition is particularly salient if the Commission decides not to attach the wholesale access and 25 percent approval requirements outlined in conditions one and two above. Precedents and models for mitigating unjust enrichment currently exist within the Commission's rules. The unjust enrichment rules governing the benefits reserved for designated entity licensees (DEs) are a particularly appropriate and workable model for a condition ensuring that the S Band licensee does not use its enormous public subsidy to harm the public by worsening the competitive landscape of an industry that is already consolidating and threatening to become an effective duopoly.

I. AS A SUBSTITUTE FOR COMPETITIVE BIDDING, SUBSTANTIAL PUBLIC INTEREST CONDITIONS ARE APPROPRIATE TO RECAPTURE A PORTION OF THE MULTI-BILLION DOLLAR VALUE OF THE PROPOSED GRANT OF AWS-4 LICENSES TO THE S BAND INCUMBENT, AS WELL AS TO PROMOTE COMPETITION, INNOVATION AND CONSUMER CHOICE

Radio spectrum is a public resource. Congress directs the Federal Communications Commission to manage spectrum to serve “the public interest, convenience, and necessity,”² including licensing spectrum for private use in a manner that benefits the public. In this *Notice of Proposed Rulemaking (AWS-4 NPRM)* the Commission proposes to designate a new AWS-4 terrestrial mobile service in the 2000-2020 MHz and 2180-2200 MHz bands and “to grant terrestrial authority to operate in the AWS-4 band to the current 2 GHz MSS licensee.”³ The Commission proposes to employ its well-established authority under Section 316 of the Communications Act “to modify the existing 2 GHz MSS licensee’s authority . . . by adding Part 27 terrestrial authority and obligations, which would apply to all the AWS-4 service areas in these bands.”⁴ In effect, the current licensee (DISH Network Corporation) would be granted nationwide AWS-4 licenses that incorporate a permanent waiver of the ATC “integrated services” rule that has restricted flexible and widespread use of MSS spectrum (both the S Band and L Band) for terrestrial-only deployments equivalent to what other mobile carriers can deploy on previously auctioned PCS, AWS, 700 MHz and other prime CMRS spectrum.

As the undersigned Public Interest Organizations have stated in earlier filings, we support the Commission’s effort to grant flexible use rights to MSS spectrum. However, the Commission must acknowledge that when it assigns new and far more valuable licenses to

² See, e.g., 47 U.S.C. § 309(a) (“Subject to the provisions of this section, the Commission shall determine, in the case of each application filed with it to which section 308 of this title applies, whether the public interest, convenience, and necessity will be served by the granting of such application.”).

³ *AWS-4 NPRM*, ¶17, 74-75.

⁴ *Ibid.*, ¶75.

particular companies without the benefit of competitive bidding, or even user fees, there are heightened expectations about the adequacy of the public interest benefits of the grant. The Commission granted a virtually identical ATC waiver to the L Band licensee, LightSquared Subsidiary LLC (“LightSquared”), in 2011. The Public Interest Organizations strongly supported that *de facto* license modification because of a number of compelling public interest benefits that were tied to the initial license transfer and subsequent integrated service rule waiver.

LightSquared compensated the public for the grant of valuable spectrum rights by agreeing to a series of substantial public interest obligations that included deployment of a wholesale-only LTE network, unprecedented buildout requirements that would cover 260 million people within four years, a costly reorganization of its interleaved band, and a requirement to seek Commission approval for any sale or leasing of more than 25 percent of the network’s capacity in an economic market area to one of the two largest terrestrial carriers by market share.⁵ In multiple filings, the Public Interest Organizations stated that these obligations are appropriate and seem likely to promote competition, innovation, consumer choice and rural broadband coverage.⁶ And during the period before the FCC determined that interference with GPS should preclude deployment, a number of smaller carriers, retailers and other wireless ventures demonstrated their intention to become customers of the anticipated wholesale offering.

⁵ See *In the Matter of 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, File Nos. ITC-T/C-20080822-00397, SAT-T/C-20080822-00157, SES-T/C 20080822-01089, SES-T/C-20080822-01088, 0003540644, 0021-EX-TU-2008, ISPPDR-20080822-00016, *Memorandum Opinion and Order*, DA 10-535 (IB, OET, WTB rel. Mar. 26, 2010).

⁶ See Comments of Free Press, Media Access Project, New America Foundation and Public Knowledge, *In the Matter of LightSquared LLC Request for Modification of its Authority for an Ancillary Terrestrial Component*, Order and Authorization, SAT-MOD-20101118-00239 (Dec. 9, 2010); Public Interest Organizations, Consolidated Opposition to Applications for Review and Petition for Reconsideration, *In the Matter of LightSquared LLC Request for Modification of its Authority for an Ancillary Terrestrial Component*, SAT-MOD-20101118-00239 (Mar. 14, 2011), at 7.

In the instant case, the market value of the new AWS-4 licenses that would be granted to DISH dwarfs the net value of the LightSquared waiver, in part because the 40 MHz S Band spectrum is so much less encumbered. Wall Street analysts estimate the incremental value of the AWS-4 license grant to be on the order of \$4 to \$6 billion.⁷ Last year DISH paid a total of \$2.8 billion for the 40 MHz of spectrum that is the subject of this proceeding – an average price of approximately \$0.23 per MHz/POP. In 2006, the average price paid for AWS-3 spectrum – much of it still encumbered by Federal users – was \$0.54 per MHz/POP. In December Verizon agreed to pay \$3.6 billion for 20 MHz of very comparable AWS spectrum covering 255 million POPs – setting a new AWS benchmark of \$0.69 per MHz/POP, a 29 percent increase. In its analysis of Verizon’s acquisition, Credit Suisse stated that “[t]he other big winner in our view is DISH. First, this price per MHz/POP would value DISH spectrum at \$8.6 billion (the spectrum is substantially identical but for the MSS gating requirements which we expect to be relaxed); second, it makes DISH’s spectrum all the more scarce,” since “[t]here are only two major blocks of fallow spectrum out there – CLWR and DISH.”⁸

The FCC’s National Broadband Plan recommended giving S Band licensees the flexibility to offer a stand-alone terrestrial broadband service, but subject to “conditions designed to ensure timely utilization of the spectrum for broadband *and appropriate consideration for the*

⁷ See Credit Suisse Equity Research, “Verizon: Spectrum Acquisition Positive for Spectrum Valuation Thesis; Positive for CLWR, Positive for DISH,” December 2, 2011 (noting that the price paid by Verizon for SpectrumCo AWS spectrum “would value DISH Spectrum at \$8.6 billion”). Wells Fargo Research valued the combined DBSD and TerreStar spectrum at \$4-to-\$5 billion. See Evelyn Rusli, “Dish Network Nearer to Winning TerreStar,” *Dealbook*, NYTimes.com, (June 28, 2011), available at <http://dealbook.nytimes.com/2011/06/28/dish-network-nearer-to-winning-terrestar/> (citing Marci Ryvicker, Wells Fargo Research Report, June 28, 2011). See generally, Credit Suisse Equity Research, “Profiting from the Spectrum Crisis,” Credit Suisse Connections Series, June 21, 2010.

⁸ Credit Suisse, “Verizon: Spectrum Acquisition Positive for Spectrum Value Thesis,” Equity Research Note, (Dec. 2, 2011).

step-up in the value of the affected spectrum.”⁹ Yet, despite the large market value of the AWS-4 licenses it proposes to assign without fees or competitive bidding, the Commission proposes no set of conditions comparable to those associated with the LightSquared authorizations, or similarly designed to promote the public interest in reversing the steady consolidation of the wireless industry, or in promoting innovation and consumer choice by making spectrum capacity more accessible to a wide range of competitive carriers, potential new entrants or innovators in adjacent markets for devices, applications and services.

If the Commission intends to deny taxpayers the \$4 to \$6 billion value of these AWS-4 licenses, then it must specify public interest benefits substantially beyond conventional buildout requirements that do not require coverage of any rural areas even after seven years and which are not substantially more stringent than conditions attached to auctioned spectrum. Public interest commenters believe that if the incumbent licensee is granted new license rights with a market value in the billions, it is entirely appropriate for the Commission to impose conditions designed to ensure that this 40 MHz of spectrum will serve the larger public interest in a vibrant competitive market for mobile connectivity.

II. CONDITIONS JUSTIFYING AN EQUITABLE GRANT OF AWS-4 LICENSES ARE NECESSARY TO PROMOTE THE PUBLIC INTEREST IN COMPETITION, INNOVATION AND CONSUMER CHOICE

As the Commission itself recites in the *AWS-4 NPRM*, it has ample legal authority under Title III both to modify spectrum licenses at any time, as well as to condition new licenses,

⁹ Connecting America: The National Broadband Plan, Recommendation 5.8.4 at 87-88 (2010) (*emphasis added*), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296935A1.pdf.

including the new AWS-4 authorizations that it proposes to grant to the S Band licensee through this proceeding.¹⁰

A. The Commission Should Condition its Grant of AWS-4 Licenses on Access to Up to 50 Percent of the Licensee’s Capacity in each Economic Area for Wholesale or Roaming Access by Other Entities on a Non-Discriminatory Basis

This Commission has recognized the inherent harm to consumers resulting from ongoing consolidation in the mobile marketplace by rejecting the proposed AT&T/T-Mobile merger, as well as implicitly by failing to find effective competition in the industry in its 2011 and 2010 annual reports.¹¹ Eroding competition in mobile markets has led to artificially high prices, unnecessarily low service quality, restrictive data caps, and deterrents to innovation and investment.¹² The dominant providers maintain a suite of pervasive obstacles to a truly and effectively competitive market, which notably include obstacles to LTE interoperability and roaming that will serve to hobble small, rural and regional carriers in particular.

As the Public Interest Organizations stated in comments supporting LightSquared’s substantively equivalent request for a waiver from the ATC integrated service restriction on its

¹⁰ The Communications Act of 1934 gives the Commission “comprehensive powers to promote and realize the vast potentialities of radio.” *National Broadcasting Co. v. United States*, 319 U.S. 190, 217 (1943). Congress, through Title III of the Communications Act, “invest[ed] the Commission with an enormous discretion” to implement license conditions that it determines will serve the public interest. *Schurz Comms. v. FCC*, 982 F.2d 1043, 1048 (7th Cir. 1992). Section 316 of the Act expressly gives the Commission the authority to modify any license if “in the judgment of the Commission such action will promote the public interest, convenience and necessity.” *AWS-4 NPRM*, ¶ 75, citing 47 U.S.C. § 316 (a)(1).

¹¹ *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*, Fifteenth Report, WT Docket No. 10-133, FCC 11-103 (Rel. Jun. 27, 2011); *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, 25 FCC Rcd 11407 (2010).

¹² See, e.g., Comments of Consumer Federation of America, Consumers Union, Free Press, Media Access Project, New America Foundation, and Public Knowledge, WT Docket No. 09-66 (filed June 15, 2009); Chris Riley, “The Myth of the Competitive Wireless Market,” Free Press (Nov. 17, 2009), at <http://www.freepress.net/node/74580>.

MSS spectrum, “LightSquared’s application serves as an important step in the process of facilitating the deployment of a new, wholesale-only mobile broadband service, and therefore can deliver significant public interest benefits by increasing competition in a largely broken wireless market, consistent with this Commission’s goal of stimulating innovation, investment, and competition in the wireless industry.”¹³ Spectrum that is designated at least partially for roaming by other carriers – and for wholesale access by any entity, including WISPs, device makers and application and service providers – offers a tremendous opportunity to lower barriers to entry for a variety of existing and new competitors and innovators.

The Public Interest Organizations believe that the Commission should condition AWS-4 licenses to require that the licensee must make up to 50 percent of its capacity available in each Economic Area for open wholesale leasing by any qualified entity, or for roaming by other carriers, on a non-discriminatory basis. This condition should apply for at least the initial license period (e.g., 10 years) and could be revisited as part of the renewal process. However, it is important that the condition be in place for a substantial number of years so as not to deter competitive carriers and especially innovative new business models or start-ups that may not have alternative spectrum available.

Although DISH, the current S Band licensee, will undoubtedly object that such a condition potentially hamstring the capacity of its own planned retail offering, at least in some major metro markets where even 40 MHz might not be sufficient in the future, that is both a small price to pay for a \$4 to \$6 billion public subsidy – and also a condition that may work to DISH’s own advantage (and the public’s) in the short term. The substantial and diverse number of partners that LightSquared was able to sign up for immediate access to its similar capacity on

¹³ Comments of Free Press, Media Access Project, New America Foundation and Public Knowledge, *In the Matter of LightSquared LLC Request for Modification of its Authority for an Ancillary Terrestrial Component*, Order and Authorization, SAT-MOD-20101118-00239 (December 9, 2010).

a wholesale basis¹⁴ suggests that if DISH is serious about a rapid buildout, a wholesale offering could provide offsetting income in addition to its planned retail offering (and probably far more quickly in many areas). As a result, a wholesale offering could both make a nationwide buildout more feasible and quite plausibly provide greater incentives and resources for a buildout more rapid than the modest benchmarks proposed in the *AWS-4 NPRM*.

More importantly, from the public's perspective a partial wholesale access requirement offers two more major benefits: First, it serves as a kind of insurance policy against the possibility that DISH, for whatever reason, will not become a new facilities-based direct competitor of the current national carriers and, even worse, that one of the two dominant carriers will acquire DISH or otherwise purchase the AWS-4 licenses. This might even become justified depending on the AWS-4 licensee's future success in raising capital and deploying a profitable retail offering on the band. For example, the cable companies comprising SpectrumCo claimed that they were quite sincere about competing with the dominant carriers using the AWS spectrum they acquired in 2006 – and then let lie fallow for six years before selling it to one of the dominant carriers. Since nothing in the NPRM precludes the new AWS-4 licensee from merging with another carrier or simply selling its licenses, a non-discriminatory wholesale access condition would at least ensure that the public interest benefit of a national wholesale access provider would endure regardless of the current licensee's intentions or future business prospects.

Second, it is becoming increasingly clear that wireless connectivity on a nationwide basis is both essential to the survival of rural and regional carriers – who have always relied on roaming – and also a fuel for innovation among a rising tide of mobile equipment makers,

¹⁴ Demand for wholesale access came from companies as diverse as C Spire Wireless, Leap Wireless, Cleartalk, Best Buy Connect, AirTouch and Smarter Car. See "Partners – LightSquared," available at <http://www.lightsquared.com/partners/>.

application developers and mobile service providers, all of which are dependent on the terms of access to wireless networks. In the former category, as small carriers have repeatedly asserted in the context of the debate over 700 MHz band interoperability, roaming is of critical importance to smaller carriers because customers are increasingly dependent upon roaming agreements for seamless data services when they are traveling or working outside their home service areas.¹⁵ Just as competitive cell phone carriers could not have survived without cellular voice roaming, it's unlikely that competitive mobile broadband carriers can survive for long in an LTE world without the ability to procure connectivity for their customers outside their home service area on fair and reasonable terms nationwide.

The other very broad category of beneficiaries of a partial wholesale access requirement are the providers and consumers of a host of current and future devices, applications and services that bundle wireless connectivity and are sold (or could be sold) independently from the incumbent national carriers. For example, given Best Buy's agreement with LightSquared to purchase bandwidth wholesale – or the feasibility of Apple, Samsung or other equipment makers to incorporate wholesale and anonymous connectivity with a tablet or other mobile device or service – it is not difficult to imagine that innovation would be encouraged, and consumer needs satisfied more affordably, if there was an open wholesale source of mobile broadband connectivity operating at a frequency as advantageous as the 2 GHz band.

B. The Commission Should Condition its Grant of AWS-4 Licenses on a Requirement of Advance Approval for Access to More than 25 Percent of the Licensee's Traffic Capacity in any Economic Area by Any Single Carrier or Other Entity

Whether or not the AWS-4 licensee is required make up to 50 percent of its capacity available for wholesale leasing and roaming, the Commission should require that the licensee

¹⁵ Comments of Rural Cellular Association, In the Matter of 700 MHz Mobile Equipment Capability, RM No. 11592 (March 31, 2010), at 9.

seek Commission approval before making more than 25 percent of the licensee’s data traffic capacity within any Economic Area available to any single carrier, or to any other entity, regardless of whether that capacity is accessed on a wholesale basis, roaming basis, under a spectrum manager lease arrangement, or as part of a network sharing agreement. This is essentially the same license condition that the Commission imposed on the transfer of L Band spectrum from SkyTerra Communications, LightSquared’s predecessor in interest, to Harbinger Capital Partners Funds.¹⁶

In its 2010 *SkyTerra Order*, the Commission imposed on Harbinger a condition that required the licensee “to obtain Commission approval before traffic to [the two] largest terrestrial providers [of CMRS and broadband services] accounts for more than 25 percent of SkyTerra’s total traffic on its terrestrial network in any Economic Area.”¹⁷ A second condition required that “if the Applicants seek to make spectrum available to either of the two largest terrestrial providers of CMRS and broadband services, they must obtain Commission approval.”¹⁸ Referring to Harbinger’s business plan promising to bring wholesale, facilities-based network into direct competition with the dominant carriers, the Commission’s Order stated that these license conditions “give us greater confidence that the promised benefits will occur.”¹⁹

Likewise, in the instant proceeding, there is nothing in DISH’s business plan, or in the Commission’s proposal for granting cost-free AWS-4 licenses, that will give the public any confidence that the promised benefits of a new nationwide wireless competitor will emerge, or that competition from non-dominant carriers will be enhanced. As MetroPCS Communications

¹⁶ See *In the Matter of SkyTerra Commc’ns, Inc., Transferor, and Harbinger Capital Partners Funds, Transferee, Applications for Consent to Transfer Control of SkyTerra Subsidiary, LLC*, IB Docket No. 08-184, Memorandum Opinion and Order and Declaratory Ruling, 25 FCC Rcd. 3059, 3089, ¶ 72 (2010) (“SkyTerra Order”).

¹⁷ *Ibid.*, at ¶ 72.

¹⁸ *Id.*

¹⁹ *Id.*

stated in its *Petition to Require Further Public Interest Showing*, in response to DISH's application for license transfer and waiver of the ATC integrated service rules, "the Applications do not include a plan that demonstrates the precise use to which the 2 GHz MSS spectrum will be put. . . . DISH provides no basis for concluding that DISH actually will provide such competition." Although the *NPRM's* proposed conditions will inject additional, flexibly-licensed AWS spectrum into the market, the Commission takes no affirmative steps, as it did with the L Band transfer and waiver conditions, to ensure that the multi-billion dollar windfall granted to the incumbent licensee at least buys some reasonable likelihood of an increase in competition and a spectrum ecosystem more favorable for innovation.

The Public Interest Organizations believe that the logic of the Commission's *SkyTerra Order* is inescapable: As it concluded there, without at a minimum conditions that restrict the ability of the AWS-4 licensee to flip these licenses to the two largest CMRS and wireless broadband carriers, the speculative public interest benefits do not come close to outweighing the possible harms to the public. While permitting a lucky incumbent to spin regulatory straw into gold may increase the total amount of spectrum available for mobile data services, the transfer of AWS-4 licenses to the emerging wireless duopoly would be worse than the status quo for consumers, competitors and innovators.

C. The Commission Should Condition its Grant of AWS-4 Licenses on a Requirement that the Licensee Make Any Fallow Spectrum Available for Temporary Shared Access Through the TV Bands Database Until Such Time as it Commences Actual Service in a Geographic Area

Any buildout requirements should be augmented by a "use it or share it" license condition that would permit other parties to make use of unused DISH spectrum in the S Band on a very localized basis until such time as DISH actually deploys service. In Comments responding to the Commission's *Notice of Inquiry* on Dynamic Spectrum Use Technologies,

PISC has previously proposed this as an alternative to more draconian and largely unenforceable “use it or lose it” buildout requirements.²⁰ While temporary local use of fallow spectrum may not have been practical as recently as last year, the Commission’s ongoing certification of geolocation databases to govern opportunistic and conditional access by frequency-hopping radios to vacant TV channels makes this entirely feasible. The FCC-certified TV Bands Databases could be used to regulate contingent access to fallow portions of the S Band, among others.²¹

There appears to be no technical reason to limit the functionality of this Database to the TV band frequencies – and no reason not to add more fallow bandwidth to this “common pool.” If a potentially useful frequency band is not being used at particular locations (e.g., used in New York City but not in West Virginia), then that wasted spectrum capacity could at a minimum be listed in the Database for opportunistic access, subject to whatever power limits, geographic exclusions, or other conditions are necessary to avoid harmful interference to incumbent services. The AWS-4 licensee would have complete co-channel protection within its defined service contours and also face no added adjacent channel risk.

The 40 MHz being reallocated in this proceeding is a particularly promising band for opportunistic access since it has been almost completely fallow for more than a decade since the

²⁰ See Comments of the Public Interest Spectrum Coalition, *In the Matter of Promoting More Efficient Use of Spectrum Through Dynamic Spectrum Use Technologies*, ET Docket No. 10-237 (Feb. 28, 2011). See also Michael Calabrese, “Use it or Share it: Unlocking the Vast Wasteland of Fallow Spectrum,” Working Paper, presented at 39th Research Conference on Communication, Information and Internet Policy, September 25, 2011, available at http://www.tprcweb.com/images/stories/2011%20papers/Calabrese_TPRC_2011.pdf.

²¹ See generally, Michael Calabrese, “Ending Spectrum Scarcity: Building on the TV Bands Database to Access Unused Public Airwaves,” New America Foundation, Wireless Future Working Paper #25 (June 2009), available at http://www.newamerica.net/files/nafmigration/Calabrese_WorkingPaper25_EndSpectrumScarcity.pdf; Kevin Werbach, “Castle in the Air: A Domain Name System for Spectrum,” *Northwestern Univ. L. Rev.*, Vol. 104, at 613 (2010), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1557244.

now-bankrupt MSS companies were granted their licenses at no cost.²² Although the 20 MHz band that DISH is acquiring from TerreStar might not be compatible with opportunistic access by other users due to the ongoing mobile use of TerreStar Genus satellite phones, the 20 MHz being acquired from DBSD is fallow spectrum – much of which will remain so for many years until such time as DISH completes a nationwide buildout. Moreover, since the Commission is proposing a buildout requirement of 70 percent of the population within seven years, it is quite likely that the vast majority of the nation’s geography – and most rural communities – will remain without AWS-4 service for at least seven years.

Just as licensed wireless microphone operators can make reservations in the database to block unlicensed access to TV white space channels as they need it, the integrated service waiver granted to DISH could require, as part of a buildout obligation, that DISH notify one or more FCC-certified TV Bands Database managers in advance of the commercial operation of a base station or other transmitter on the S Band, along with the protection contour that is needed to give the licensee its needed and expected protection from harmful interference. Any unlicensed or other FCC-approved access to unused S Band spectrum in a local area would be subject to these conditions, including the presumption that use of fallow MSS spectrum is contingent and temporary. The Commission should further require that only devices and/or systems that are multi-band, equipped with GPS, capable of periodically checking the database, and on notice that they will be denied permission to continue using the S Band frequencies in a local area once the

²² The Commission initially reserved spectrum for MSS use by DBSD and TerreStar’s predecessors in interest in 2001. *ICO Services Ltd. Letter of Intent to Provide Mobile-Satellite Service in the 2 GHz Bands*, IBFS Nos. SAT-LOI-19970926-00163, SAT-AMD-20000612-00107, SAT-AMD-20001103-00155, Order, 16 FCC Rcd. 13762 (2001); *TMI Communications and Company, Ltd. P’ship Letter of Intent to Provide Mobile-Satellite Service in the 2 GHz Bands*, IBFS Nos. SAT-LOI-19970926-00161, SAT-AMD-20001103-00158, Order, 16 FCC Rcd. 13808 (2001).

licensee notifies the Commission and TV Bands Database of the geographic areas where actual service will commence.

As the Commission adds fallow or underutilized bands to the database, subject to band-by-band conditions designed to avoid interference with incumbent licensees, networks and devices can check the database for a particular area and select the most useful frequency from among those to which they can be tuned. Although device costs might be higher, the low spectrum costs would presumably be an offset. That trade-off between the ability to use unlicensed spectrum with somewhat more expensive equipment and/or a potentially lower quality of service is what has allowed thousands of WISPs and community wireless providers to serve rural and other underserved areas.

Another emerging development that supports both the usefulness of a “stockpile” of unused spectrum and its benefit for consumers and competition is the possibility that multiple carriers – as well as other services needing wireless connectivity – could share a common network infrastructure. For example, investment analysts at Credit Suisse have reported on what they view as the potentially “transformative” impact of a proposed “network-sharing model [that] would lower barriers for new entrants, potentially leading to retail pricing pressure.”²³ Under the scenario they describe, a single nationwide 4G network “with multimode base stations and software defined radios would make infrastructure sharing possible.” In their view, other carriers would share network operating costs and bring their own spectrum. “This could result in over 350 MHz of spectrum ... being consolidated on a single network,” they speculate, with participants offering both direct retail and wholesale services.²⁴ At least one major carrier, Sprint Nextel, believes this business model is viable. It is the basis of the “Network Vision” initiative

²³ Jonathan Chaplin, Tom Champion, Nick Karzon, “Network Sharing Could Be Transformative,” Credit Suisse, Equity Research Comment, at 1 (Feb. 23, 2011).

²⁴ *Ibid.* at pp. 2-3.

the company announced last December, a partnership model premised in part on the ability of its new LTE towers and access points to “install new network equipment and software that brings together multiple spectrum bands, or airwaves, on a single, multimode base station.”²⁵

In addition, like unlicensed access to TV white space, many uses will be very low power and local area connections for peer-to-peer applications, or for connections to a wireline router for the purpose of achieving faster data rates and offload, thereby avoiding the need to send certain bandwidth intensive data applications (such as video) over a capacity-limited licensed network.

Although the TV Bands governance mechanism is already well-proven and technically straightforward, if the Commission determines it is premature to extend the geolocation database management concept within the time frame of this proceeding, it should at a minimum impose an explicit condition that reserves the option to add the non-deployed portions of the AWS-4 band to a geolocation database for opportunistic public access at a future date.

D. The Commission Should Condition its Grant of AWS-4 Licenses on Unjust Enrichment Penalties that at Least Partially Compensate the Public if the AWS-4 Licensee Sells or Otherwise Transfers Control of its Licenses to One of the Two Largest Mobile Data Carriers Within Five Years

In addition to the other proposed conditions, and particularly if the Commission fails to impose them, Commenters ask the Commission to impose unjust enrichment penalties on sale of the spectrum to either of the two largest CMRS and wireless broadband carriers. This condition would prevent DISH from unjustly realizing a windfall if it transfers or assigns the spectrum.

²⁵ “Sprint Announces Network Vision – A Cutting-Edge Network Evolution Plan With Partners Alcatel-Lucent, Ericsson and Samsung,” News Release (Dec. 6, 2010), available at http://newsroom.sprint.com/article_display.cfm?article_id=1732.

Current models for mitigating unjust enrichment currently exist within the Commission’s rules, and the Commission could draw on those models in this instance.

The long-established principle of unjust enrichment holds that an entity who has been unjustly enriched at the expense of another must legally return any unfairly kept money or benefits. In the present situation, DISH is granted access to the public’s spectrum for the purpose of increasing competition in the mobile broadband market. If DISH, rather than using the spectrum to launch its proposed hybrid MSS/terrestrial broadband network, decided instead to turn around and re-sell the spectrum to an incumbent mobile carrier, it would be enriching itself financially at the expense of the public who would suffer from a much more heavily consolidated mobile broadband environment. Unjust enrichment penalties would mitigate the incentives for DISH to “flip” the spectrum.

The Commission has well-established unjust enrichment penalties in its spectrum rules governing the benefits reserved for designated entity licenses (DEs), which establishes both the precedent and model for such a condition on DISH. As the Commission stated in its 2006 *Order* seeking to extend the DE clawback period from five to ten years, “the unjust enrichment rules provide a deterrent to speculation and participation in the licensing process by those who do not intend to offer service to the public, or who intend to use bidding credits to obtain a license at a discount and later to sell it at the full market price for a windfall profit.”²⁶ Accordingly, DE rules provide for a 5-year sliding penalty schedule. The schedule provides that during the first two years of the license term, if a designated entity seeks to assign or transfer control of a license, or enters into a *de facto* transfer lease, with an entity that does not qualify for bidding credits, then

²⁶ See Implementation of the Commercial Spectrum Enhancement Act and Modernization of the Commission’s Competitive Bidding Rules and Procedures, WT Docket No. 05-211, *Second Report and Order and Second Further Notice of Proposed Rulemaking*, 21 FCC Rcd 4753 (2006), ¶ 31, *vacated in part, Council Tree Communications, Inc. v. FCC*, 619 F.3d 235 (3d Cir. 2010). available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-06-52A1.pdf.

that entity must repay 100 percent of the bidding credit, plus interest. If the transaction is during the third year of the license term, the entity would owe 75 percent of the bidding credit, plus interest; for year four, 50 percent, plus interest; for year five, 25 percent, plus interest.²⁷

The Public Interest Organizations propose that a similar 5-year phase-out schedule be adopted here as a license condition that would be triggered if an AWS-4 license is sold, transferred or substantially leased (more than 25 percent) to one of the two largest CMRS and mobile broadband carriers. Alternatively, the penalty period could be extended to align with the Commission's proposed 10-year initial licensing period, with the penalty reduced proportionally over time (e.g., by 10 percent per year), an extended period that the Commission also found appropriate in the DE context.²⁸ The Commission could also consider aligning the phase-out of the unjust enrichment penalty with the benchmarks established in its buildout requirements. Regardless of the phase-out period, such a condition would provide an additional safeguard that ensures the AWS-4 grantee – and any future recipients of immensely valuable new rights for non-auctioned spectrum – is more likely to deploy the spectrum in a manner that is consistent with the public interest and is not unjustly enriched at the public's expense for a short-run transfer of the spectrum license or capacity to another provider.

²⁷ 47 C.F.R. § 1.2111(d)(2).

²⁸ See *Second Report and Order*, *supra* note 26, at ¶ 31, available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-06-52A1.pdf. The Commission reinstated the 5-year phase-out period after the Third Circuit vacated and remanded its extension to a 10-year period due to a violation of the Administrative Procedures Act. See *Implementation of the Commercial Spectrum Enhancement Act and Modernization of the Commission's Competitive Bidding Rules and Procedures*, WT Docket No. 05-211, *Order*(*Rel.* Feb. 1, 2012), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-12-12A1.pdf.

CONCLUSION

The Public Interest Organizations support the Commission's efforts to make more flexible-use spectrum available for advanced wireless services, but also believe the broader public interest is best served by assigning new licenses in a manner explicitly designed to promote mobile industry competition and more extensive use of fallow spectrum. With that broader public interest goal in mind, the Public Interest Organization respectfully urge the Commission to condition its grant of AWS-4 licenses with the four spectrum access and unjust enrichment conditions outlined in the comments above.

Respectfully Submitted,

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