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BY ECFS

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: Written *Ex Parte* Presentation

RM-11681

IB Docket No. 12-340; DA 12-1863 (LightSquared Subsidiary LLC
Request to Modify its ATC Authorization)

Dear Ms. Dortch:

Northstar Wireless, LLC (“Northstar Wireless”) is the licensee of 261 AWS-3 licenses, including 92 licenses to conduct mobile uplink operations in the 1695-1700 MHz band and 81 licenses to conduct mobile uplink operations in the 1700-1710 MHz band. The proposal of Ligado Networks (“Ligado”) to use the 1675-1680 MHz band for terrestrial mobile downlink transmissions introduces meaningful challenges regarding the efficient use of this very-recently licensed AWS-3 spectrum. Northstar Wireless respectfully requests that the Commission carefully consider these complications as it evaluates Ligado’s proposal.

Specifically, Ligado has petitioned the Commission to repurpose the 1675-1680 MHz band for terrestrial downlink operations.¹ In a recent filing, it asked the Commission to “move forward with reallocation and auction of the 1675-1680 MHz band, including license conditions that will permit the licensee to use that spectrum on a shared basis and in ways that accommodate the concerns of [the National Oceanic and Atmospheric Administration (“NOAA”)].”²

¹ *LightSquared Subsidiary LLC Petition for Rulemaking to Allocate the 1675 – 1680 MHz Band for Terrestrial Mobile Use*, Petition for Rulemaking, RM-11681, at 7 (filed Nov. 2, 2012) (“Ligado Petition”). The Ligado Petition was submitted by Ligado’s predecessor LightSquared Subsidiary LLC.

² See Letter from Gerard J. Waldron, Counsel to New LightSquared, to Marlene H. Dortch, IB Docket No. 12-340; IB Docket No. 11-109; IBFS File Nos. SAT-MOD-20120928-00160; SAT-MOD-20120928-00161; SES-MOD-20121001-00872, at 1 (filed Dec. 31, 2015).

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Unpaired uplink AWS-3 licensees in the 1695-1710 MHz band will operate in the same spectrum, or spectrum adjacent to, a number of federal entities. NOAA, for example, receives data from geostationary operational environmental satellites (“GOES”) transmitting in the 1673-1694.5 MHz band. The Department of Defense and Department of Interior also receive data from GOES. Further, the first satellite supporting the next generation of GOES, called “GOES-R,” is slated for launch this year.³ The band used by this GOES-R system will be adjacent to the 1675-1680 MHz band, and will extend 300 kilohertz into it. Systems operated by NOAA, the Department of Defense, and the Department of Interior all receive data from polar-orbiting operational environmental satellites (“POES”) transmitting in the 1695 – 1710 MHz band.⁴ Thus, both AWS-3 unpaired uplink and Ligado’s proposed frequencies can cause increased signal levels to GOES and POES earth stations. In some cases, the contribution would be co-channel and, in other cases, it would be adjacent channel. The frequencies associated with GOES and POES satellites must be protected from external sources of co-channel and adjacent channel signals in light of the national security purposes of these systems.⁵

Before AWS-3 licenses were offered in Auction 97, the Commerce Spectrum Management Advisory Committee (“CSMAC”) developed a framework to ensure that AWS-3 commercial licensees could share this spectrum with the established federal uses and to protect federal meteorological earth stations operating in the 1675-1710 MHz band from interference caused by commercial users.⁶ CSMAC’s Working Group 1 (“WG-1”) proposed a series of protected zones around the relevant meteorological earth stations within which commercial operators in the 1695-1710 MHz band must coordinate their usage with federal entities.⁷ WG-1 then developed a set of individualized interference thresholds that would be acceptable for each protected earth station, effectively fixing a maximum amount of interference that may not be exceeded by commercial operators in the vicinity. The Commission incorporated WG1’s proposals into its rules prior to Auction 97.⁸

³ See Commerce Spectrum Management Advisory Committee, *Final Report: Working Group 1 – 1695-1710 MHz Meteorological-Satellite* at 5 (Jan. 22, 2013), https://www.ntia.doc.gov/files/ntia/publications/wg_1_report.pdf (“CSMAC Report”).

⁴ See NTIA, *Transition Plans and Transition Data for the 1695-1710 MHz Band* (Oct. 29, 2015), <https://www.ntia.doc.gov/other-publication/2015/transition-plans-and-transition-data-1695-1710-mhz-band>.

⁵ See 47 C.F.R. § 2.106, note US 88 for a list of the facilities to be protected.

⁶ See generally *CSMAC Report*.

⁷ *Id.*, App. 7.

⁸ See 47 C.F.R. § 27.1134(c); *Amendment of the Commission’s Rules with Regard to Commercial Operations in the 1695-1710 MHz, 1755-1780 MHz, and 2155-*

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Ligado's proposal, however, would repurpose and add the 5 MHz block of spectrum at 1675-1680 MHz to an existing 5 MHz allocation at 1670-1675 MHz to establish a contiguous 10 MHz block of downlink spectrum for terrestrial wireless broadband services.⁹ As a result of that repurposing, the transmissions from these base stations would contribute to exceeding the allowed thresholds under the levels established by the Commission's implementation of WG-1's proposals. The AWS-3 interference analysis conducted by WG-1 did not consider the impact of commercial downlink operations in the 1675-1680 MHz band,¹⁰ and the Commission's corresponding rules do not reflect such operations.¹¹ Co-channel or adjacent channel signal levels from such other commercial sources would, from a practical perspective, be additive to that considered by WG-1 and adopted by the Commission.

The Alion Science and Technology Task Reports, commissioned by Ligado, specified protection zones for the federal entities' earth stations within which it would coordinate its own base station placements and operations with federal entities.¹² Yet, commercial downlink operations proposed by Ligado would count against the existing thresholds developed by WG-1 and incorporated by the Commission, meaning that the amount of acceptable signal levels generated by AWS-3 licensees would be *reduced* by the contribution from Ligado's proposed base stations.¹³ Such a reduction would limit the number of AWS-3 mobile units that could operate within or outside the coordination

2180 MHz Bands, Report and Order, 29 FCC Rcd 4610, 4617-18, 4692-93 (2014) ("*AWS-3 Report and Order*"). Under the Commission's Rules, coordination is required within the protection zones for devices with a maximum Effective Isotropic Radiated Power ("EIRP") of 20 dBm or less. For devices with an EIRP of more than 20 dBm up to the maximum 30 dBm, coordination is required nationwide. *See* 47 C.F.R. § 27.1134(c).

⁹ *See* Ligado Petition at 7-8.

¹⁰ *See Federal Communications Commission and the National Telecommunications And Information Administration: Coordination Procedures in the 1695-1710 MHz and 1755-1780 MHz Bands*, Public Notice, 29 FCC Rcd 8527 (2014) (setting coordination procedures for the 1695-1710 MHz band without reference to Ligado's proposals); *CSMAC Report* at 7 ("WG-1 recommends that NTIA work with the FCC to ensure any rules promulgated for the 1695-1710 MHz spectrum limit the use of this spectrum for commercial operators to mobile transmit.").

¹¹ *See* 47 C.F.R. § 27.1134(c).

¹² Alion Science and Technology, *Assessment of the Potential for LightSquared Broadband Base Stations in the 1670-1680 MHz Band To Interfere with Select NOAA Legacy Ground Locations* (February 2014), <http://apps.fcc.gov/ecfs/document/view?id=7521098269> ("*Alion Task 2 Reports*").

¹³ *See generally id.*

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zones. The threshold levels originally allocated exclusively to the AWS-3 commercial licensees would become subject to redistribution among even more users, reducing the utility and value of the AWS-3 licenses for which the levels were developed.

Moreover, part of the proceeds from Auction 97 were designated to help pay the expenses incurred by federal entities as a result of sharing the spectrum with these AWS-3 commercial licensees,¹⁴ including the cost of relocating radiosondes and equipping the federal entities' earth stations with RF monitoring capabilities.¹⁵ The redistribution of the interference budget that could result from Ligado's proposal would represent a windfall to those users who did not contribute to these federal entity sharing costs via Auction 97.

In short, Ligado's proposal raises problems because the proposal does not take into the account the potential for increased signal strength levels caused by Ligado's use, in addition to the existing uses. If the Ligado contribution is allowed in the interference budget, then it could have a detrimental impact on AWS-3 licensees. Northstar Wireless urges the Commission to consider this impact, and the potential for other interference-related issues, while examining Ligado's proposal.

Pursuant to Section 1.1206(b)(2) of the Commission's rules, an electronic copy of this letter is being filed in the above-referenced proceedings.

Sincerely,

/s/ Mark F. Dever

Mark F. Dever

¹⁴ See *AWS-3 Report and Order*, 29 FCC Rcd at 4615-17; *Auction of Advanced Wireless Services (AWS-3) Licenses Scheduled for November 13, 2014; Notice and Filing Requirements, Reserve Prices, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 97, Public Notice*, 29 FCC Rcd 8386, 8401-02 (2014). See also <https://www.ntia.doc.gov/category/aws-3-transition>.

¹⁵ See, e.g., Letter from the Honorable Lawrence E. Strickling, Assistant Secretary for Communications and Information, United States Department of Commerce, to the Honorable Tom Wheeler, Chairman, Federal Communications Commission (May 13, 2014) at Attachment B1 https://www.ntia.doc.gov/files/ntia/publications/notification_to_fcc_re_est_costs_for_1695_and_1755_bands_05132014.pdf.