

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)
Higher Ground LLC) File No. SES-LIC-20150616-00357 **Accepted / Filed**
Application for Blanket Earth Station) Call Sign E150095
License)

MAR 20 2017

REPLY OF CENTURYLINK¹

Federal Communications Commission
Office of the Secretary

Pursuant to Section 1.115 of the Federal Communication Commission's (Commission) Rules, CenturyLink submits this reply in response to Higher Ground's Consolidated Opposition to Applications for Review.² CenturyLink supports the several Applications for Review of the Bureaus' decision granting Higher Ground's application, with conditions, for a blanket earth station license.³ CenturyLink agrees that in granting the application, even with conditions, the Bureaus have not appropriately evaluated where the public interest lies with respect to this application. The Bureaus wholly failed to consider whether Higher Ground's testing of its coordination system and devices was sufficiently robust to support nationwide deployment of its devices. Additionally, by using a process with less public visibility than a rulemaking, the Bureaus did not obtain a full picture of the impact of granting the application.

Fundamentally, this proceeding presents novel questions of law and policy that have not previously been resolved by the Commission. Countless of fixed wireless facilities use the 5925-6425 MHz band to provide critical communication services throughout the country and those

¹ This filing is made on behalf of CenturyLink, Inc. and its subsidiary entities that provide communication services using fixed microwave facilities.

² 47 C.F.R. § 1.115(d); Consolidated Opposition to Applications for Review, File No. SES-LIC-20150616-00357, *Higher Ground, LLC, Application for a Blanket License to Operate C-band Mobile Earth Terminals* (Mar. 6, 2017) (HG Consol. Opp.). Subsequent references to filings that are part of the record for File No. SES-LIC-20150616-00357 do not repeat the File No. and proceeding name.

³ Application for Review of the Fixed Wireless Communications Coalition, filed herein (Feb. 10, 2017); Applications for Review of APCO International, Enterprise Wireless Alliance, Utilities Telecommunications Council, filed herein (Feb. 17, 2017); Order and Authorization, DA 17-80 (Int. Bur., Wireless Tel. Bur., Off. of Engin. & Tech., rel. herein Jan. 18, 2017).

transmissions have been protected from interference through a long-standing bilateral coordination regime and a categorical prohibition on mobile devices in that band.⁴ Higher Ground’s license shatters that status quo by authorizing a single entity to operate up to 50,000 mobile earth stations in this band nationwide using a novel, unilateral coordination system to ostensibly protect incumbent users of the band from harmful interference. Before allowing such a significant change in spectrum use, it is essential to conduct rigorous testing of the interference protection capabilities of the new coordination system and a careful evaluation of the nature and results of that testing. It also requires notice of the proposed changes reasonably calculated to reach all current users of the spectrum band. Because the Bureaus’ review of this license application and waiver request did not have these critical elements, the Commission should reverse their decision to grant the application and waiver request.

1. The Bureaus Failed to Require Rigorous Interference Testing and to Evaluate Higher Ground’s Testing of Its System and SatPaqs.

In granting this application, the Bureaus have gambled – primarily based on predictive analysis – that Higher Ground’s coordination system and devices will perform in the real world as anticipated. CenturyLink has repeatedly expressed concern about the lack of interference testing for the system and devices.⁵ While Higher Ground asserts that it has done testing “throughout various areas of the United States[,]”⁶ there is little in the record about the nature and results of the testing that Higher Ground has done. For instance, CenturyLink requested that

⁴ In a 2005 rulemaking proceeding, the Commission permitted earth stations on vessels to operate in this band, but requiring bilateral coordination measures to protect fixed wireless facilities using frequencies in this band from interference, and without altering the general prohibition of mobile earth stations in this band. *See Procedures to Govern the Use of Satellite Earth Stations on Board Vessels in the 5925-6425 MHz/3700-4200 MHz Bands*, IB Docket No. 02-10, Report and Order, 20 FCC Rcd 674, 681-97 ¶¶ 12-54, 699-704 ¶¶ 59-72 (Jan. 6, 2005).

⁵ CenturyLink Comments, filed herein (Sep. 10, 2015), at 4-5; CenturyLink *Ex Parte*, filed herein (Mar. 4, 2016); CenturyLink *Ex Parte*, dated Feb. 1, 2016, and filed herein (Mar. 7, 2016); CenturyLink Reply, filed herein (Sep. 28, 2015), at 2-5.

⁶ HG Consol. Opp. at 13.

Higher Ground test whether the system will successfully avoid interference when more than one SatPaq is used in the vicinity of a fixed wireless receiver.⁷ Higher Ground's response to CenturyLink's legitimate concern was simply that such testing was statistically unnecessary because (1) statistically the combined signals would still be 3 dB below Boltzmann noise and (2) the likelihood that two SatPaqs would be used in the same location is low.⁸ Higher Ground should responsibly perform the testing to confirm that the coordination system works in the purportedly statistically rare situation as predicted.

Further, Higher Ground asserts that throughout their testing they have not received an interference complaint.⁹ But, the extent of Higher Ground's interference testing is not in the record, making it unreasonable to simply assume it was adequate. Higher Ground states it is required to provide notice to nearby point-to-point operations in advance of its SatPaq operations and that it has done so.¹⁰ Yet, there is no information on what the notices state, how they are provided to potentially impacted operators, how far in advance of the testing they are provided, how the potentially impacted operators and fixed wireless locations are identified, how many operators and locations have been notified of potential interference due to planned testing, or whether the notices have been effectively received. The fact that Higher Ground has received no interference complaints to date cannot be relied upon absent the full context for that statement.

Thus, Higher Ground has claimed that no additional testing is necessary, or to the extent that they have done any additional testing, they have provided no detailed information regarding the nature of that testing or its results. In turn, there is wholly inadequate information about the

⁷ CenturyLink *Ex Parte*, filed herein (Mar. 4, 2016); CenturyLink *Ex Parte*, dated Feb. 1, 2016, and filed herein (Mar. 7, 2016).

⁸ Higher Ground *Ex Parte*, filed herein (Apr. 20, 2016) (HG Apr. 20, 2016 *Ex Parte*).

⁹ HG Consol. Opp. at 13; Higher Ground *Ex Parte*, filed herein (Aug. 5, 2016), at 2 (HG Aug. 5, 2016 *Ex Parte*).

¹⁰ HG Apr. 20, 2016 *Ex Parte*, at 5; HG Aug. 5, 2016 *Ex Parte*, at 2; HG Consol. Opp. at 13.

functionality of the SatPaqs and the coordination system – particularly its interference-avoidance capabilities – in practice that the Bureaus could reasonably rely upon in evaluating the risks and benefits of the license and waiver request.

Additionally, the Bureaus’ order granting the application does not address how the coordination system and SatPaqs are *actually* operating under the experimental licenses that Higher Ground has received. The Bureaus’ written decision is based entirely on review of Higher Ground’s predictive analysis of how its system and devices will perform. CenturyLink appreciates the innovation and the theoretical potential of Higher Ground’s system and devices. But, given the risk of serious harm if the coordination system and devices do not work as intended and the sheer novelty of this conflicting use in the critical communications band, the decision to grant the application cannot be based only on the modeled analyses of non-interference. There is a limit to how much predictive modeling and statistical projections can inform what will actually happen in the real world. The best way to design a robust system is to put it through the most challenging scenarios and see how it responds. Here, there is nothing in the record that suggests that Higher Ground has adequately tested the limits of its system and devices. The Bureaus should have required more rigorous interference testing and thoroughly evaluated that testing in order to ensure that the novel coordination system and devices will successfully avoid harmful interference with fixed wireless facilities.

2. The Bureaus Failed to Afford Sufficient Notice and Opportunity for Incumbent Users and Others Impacted by the License and Waiver Request to Participate in the Proceeding.

The Bureaus should not permit a new interference protection regime and new spectrum use that potentially impact every incumbent user in the band without providing the best procedural opportunity for all who are potentially impacted to participate. The common notice process used to alert the public regarding license applications is wholly insufficient to bring this

particular application and waiver request to the attention of the many incumbent users and others potentially impacted by this request.¹¹ In this situation it deprives the Bureaus of the benefit of necessary and critical input as to the possible effects of granting the application.¹² Given the novelty of this license application and waiver request as well as the extensive impact that granting the application would have on others, the Bureaus should have reviewed this application through a process that better enabled broader public participation.

For these reasons, CenturyLink agrees with the Applications for Review that the Commission must reverse the Bureaus' decisions in granting the license and waiver. The Commission should require Higher Ground to further test the interference avoidance capabilities of the coordination system and devices and report the results of those tests. Those test results should be thoroughly evaluated in any further consideration of the license and waiver request. The Commission should also require that notice of this proceeding afford those potentially impacted by the request an opportunity to meaningfully participate and inform a further decision in this matter.

Respectfully submitted,

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¹¹ The manner in which many of the participants in the Higher Ground proceeding to date appeared over time and some many months after the initial notice of the application is indicative of this reality.

¹² APCO's Application for Review in which it acknowledges that it was not aware of the proceeding until the Order granting the application issued is an apt example of this.

CERTIFICATE OF SERVICE

I, Ross Dino, do hereby certify that I have caused the foregoing **REPLY OF CENTURYLINK** to be:

- 1) Filed with the Office of the Secretary (an original and four copies, with an extra copy to be stamped and returned); and
- 2) With a copy served, via first-class U.S. Mail, postage pre-paid, on each of the parties as referenced on the attached service list.

/s/ Ross Dino

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