

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

In the Matter of)	
)	
Higher Ground LLC)	File No. SES-LIC-20150616-00357
)	
Application for a Blanket License to)	Call Sign E150095
Operate C-band Mobile Earth Terminals)	

**FIXED WIRELESS COMMUNICATIONS COALITION
REPLY TO CONSOLIDATED OPPOSITION OF HIGHER GROUND LLC**

The Fixed Wireless Communications Coalition, Inc. (“FWCC”) submits the following in reply to the Consolidated Opposition of Higher Ground LLC (“HG”),¹ and in continued opposition to HG’s application to operate “SatPac” devices under proposed waivers of Commission rules.² HG fails to establish that a waiver is warranted for its proposed introduction of mobile devices, and its own operational rules, into a “fixed only” frequency allocation. The public interest does not support a grant of the waivers, and HG fails to show that its proposed self-coordination mechanism adequately addresses concerns to protect incumbent fixed services (“FS”) licensees in the 6 GHz band from harmful interference. The Application and corresponding waiver requests should be summarily denied.

I. GRANT OF THE REQUESTED WAIVER IS UNWARRANTED

The Commission’s waiver process is not the proper mechanism under which to consider HG’s proposal. Although the Commission has discretion to consider waiver requests, “it is nevertheless the case that guidance from the courts indicates that issues of general applicability

¹ *Higher Ground LLC, Application for a Blanket License to Operate C-band Mobile Earth Terminals, Consolidated Opposition of Higher Ground LLC at 1-3, File No. SES-LIC-20150615-00357, Call Sign E150095 (filed Sept. 23, 2015) (“Opposition”).*

² *Higher Ground LLC, Application for a Blanket License to Operate C-band Mobile Earth Terminals, Application for Authority, File No. SES-LIC-20150615-00357, Call Sign E150095 (filed June 15, 2015) (“Application”).*

are more suited to rulemaking than to adjudication.”³ Based on this guidance, the Commission has found that the public interest would not be served where grant of a waiver resulted in the “offering of services incompatible with the existing licensing framework,” and “the public interest was...better served by initiating a rulemaking to develop consistent rules of general applicability.”⁴ Accordingly, the Commission has denied waivers which seek to “implement a new service not provided in the rules.”⁵

Despite its attempt to claim otherwise,⁶ HG is clearly seeking more than just a minor waiver of “technical rules.” Rather, HG proposes to replace several paragraphs of existing Commission requirements with a complex set of its own operational rules, and to alter national (and international) policy in the matter of frequency designation by introducing mobile service to a frequency band where such operations are not permitted.⁷ HG’s proposed rule and policy changes have the potential to negatively impact every single existing and future licensee in the lower 6 GHz bands—contemplating changes having such prospective implications and “general

³ *Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission’s Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services*, Second Report and Order, Order on Reconsideration, and Fifth Notice of Proposed Rulemaking, 12 FCC Rcd 12545, 12703 (1997) (footnotes omitted) (“*LMDS Second Report and Order*”). For example, proposals that would have the potential to negatively impact all existing licensees in a particular band are considered matters of “general applicability.” *Id.*

⁴ *Rulemaking To Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, To Reallocate the 29.5-30.0 GHz Frequency Band, To Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services*, Third Order on Reconsideration, 13 FCC Rcd 4856, 4944 (1998).

⁵ *Id.* at 4945.

⁶ Opposition at 4, n.18.

⁷ Bringing mobile services into a fixed band is a major policy change that must be weighed and carefully considered through the rulemaking process. Indeed, the management of spectrum resources, including allocation of new services to a frequency band, is a matter that must weigh policy concerns on both a national and international level.

applicability” is more suited to rulemaking than to adjudication via the waiver process. And despite HG’s protestation,⁸ this very proceeding has demonstrated the necessity of a rulemaking: HG’s continued “tweaking” of its proposed operational rules suggests that further public vetting is necessary in a broader forum.⁹ Accordingly, the Commission should deny HG’s waiver requests.

II. THE WAIVER REQUESTS STILL FAIL APPLICABLE STANDARDS

Even if the Commission chooses to proceed by waiver, HG still has not met the applicable standards.¹⁰ “An applicant for waiver faces a high hurdle even at the starting gate.”¹¹ In cases where an applicant seeks to use frequencies not allocated for a particular service type, this high hurdle has included demonstration:

that the existing frequency allocation is not suited or insufficient to accommodate the applicant's requirements; that the frequencies requested are under utilized; that the proposed use of the frequencies will not be detrimental to their assigned users; and that the public interest will be served by a grant of the waiver.¹²

According to the Commission all these criteria must be met,¹³ and the Commission even has denied a waiver when alternative means (*e.g.*, frequency allocations) already exist to accomplish

⁸ Opposition at 6.

⁹ This proceeding has not afforded all interested parties a fair opportunity to comment on the relevant issues. Comment has only been sought by means of a routine “accepted for filing” public notice for satellite applications, which obscures from the public that waivers are being sought that could have significant impact on other types of Commission licensees.

¹⁰ See 47 C.F.R. §§ 1.3, 1.925(b)(3); *Big Bend Telephone Company, Inc. and Dell Telephone Cooperative, Inc.*, Memorandum Opinion and Order, 2 FCC Rcd 2413, 2414 (1986) (enumerating factors that are considered when determining whether to grant “waivers to use other than assigned radio frequencies”) (“*Big Bend Telephone*”). See also, *LMDS Second Report and Order*, 12 FCC Rcd at 12705-12706 (applying the standards from *Big Bend Telephone* to deny requested waivers).

¹¹ *WAIT Radio v. FCC*, 418 F.2d 1153, 1157 (D.C. Cir. 1968).

¹² *Big Bend Telephone*, 2 FCC Rcd at 2414.

¹³ *Id.* at n.8 (“If these criteria are not met the waiver will be denied”).

the waiver applicant's intended usage.¹⁴ Regarding the first two criteria, HG has not adequately demonstrated why existing frequency allocations for MSS are insufficient,¹⁵ nor has HG refuted the FWCC's demonstration that the lower 6 GHz bands are very heavily utilized. On the third, serious concerns have been raised by FWCC and CenturyLink as to whether HG's self-proposed operational rules adequately protect existing FS licensees.

All of that notwithstanding, it is extremely dubious that the public interest would call for potentially jeopardizing tens of thousands of established 6 GHz microwave facilities—many supporting critical services and the nation's communications infrastructure—in favor of providing “messaging and light email” for “tourists and recreationalists” engaged in outdoor activities.¹⁶ Simply put, this is a bad trade. HG's attempt to bolster its public interest benefits by claiming that it is also “developing” other potential Internet of Things (“IoT”) applications is unavailing.¹⁷ It remains to be seen whether these “developing” applications—many of which appear to be fixed uses for which traditional coordination could be readily accomplished—would even justify the requested waivers or operate under the same parameters as the currently proposed SatPaq devices. For these reasons, FWCC agrees with CenturyLink that HG fails to demonstrate that any potential usefulness of its SatPaq device outweighs the potential for interference that could interrupt microwave links that are essential to our nation's critical

¹⁴ *Id.* (“The waiver request was denied because alternative means were available...”).

¹⁵ HG's contention that MSS is “a specialized service” does not explain why its devices could not operate on MSS bands. Several MSS licensees have previously proposed business plans aimed at providing ubiquitous and cost-conscious mobile services. *See* Public Notice, *LightSquared Request to Modify its ATC Authorization*, IB Docket No. 12-340 (rel. Nov. 16, 2012); *TerreStar Networks Inc., Application for Modification of 2 GHz Band Mobile Earth Terminal Blanket License*, Call Sign E060430 (filed July 21, 2010).

¹⁶ Opposition at 2.

¹⁷ Opposition at 3.

communications infrastructure. Application of the Commission’s waiver standards, including a balanced evaluation of the public interest, requires denial of the waiver requests.

III. SERIOUS DOUBTS STILL EXIST THAT HG’S PROPOSED SELF-COORDINATION TECHNIQUE CAN ADEQUATELY PROTECT FIXED SERVICES FROM HARMFUL INTERFERENCE

The FWCC is not convinced that HG’s proposed self-coordination technique can effectively protect FS. HG’s proposal lacks specificity on certain issues, contains inconsistencies, is untested, and still continues to mutate in an attempt to address issues HG failed to anticipate. The FCC is left with no reasonable basis on which to conclude that FS receivers will be adequately protected or to justify a grant of the waiver requests.

The lack of specificity and inconsistencies in HG’s proposals are troubling. For example, HG proposes that “[s]hould the SatPaq be more than 4 ft. above ground, then the [stand-off] distance D would be appropriately increased,”¹⁸ but provides no further details on how or whether the distance would be increased. HG suggests that “the typical microwave link has a communications distance of 20 to 30 miles” as justification for defining its “exclusion zone triangle to be... 50 miles long,”¹⁹ but also admits that “[e]xtreme differences in antenna height may require the computation of a longer triangle.”²⁰ Moreover, in response to FWCC’s concerns, HG suggests abandoning a fundamental element of the method it claimed would have protected FS receivers – the “close proximity circle” – and proposes to adopt a more complex “link budget method.”²¹ But HG does so without providing sufficiently detailed descriptions or

¹⁸ Technical Appendix at n.4.

¹⁹ Technical Appendix at 10.

²⁰ *Id.* at n.6.

²¹ Opposition at 12-13.

verification methodologies,²² and mischaracterizes the FWCC's concern that HG's methodology was based upon faulty assumptions for all antenna types as one that only concerns lower performance Category B1 antennas.²³ In sum, HG's proposal does not inspire confidence.²⁴

Finally, despite HG's argument that licensees are ultimately responsible for providing accurate ULS licensing data,²⁵ a database system relying on ULS information is still not a reliable means of interference management. ULS has a history of being unavailable or incorrect for various reasons. FCC update files have been corrupted in the past, requiring extensive work to identify and correct. And ULS has not been immune to significant downtime. Both of these problems are out of the control of FS licensees. Additionally, conditional authorization for FS licensees allows an applicant to begin operating upon submittal of a properly completed application. The possibility exists for a time lag between system turn up, application data appearing in ULS, and subsequent synchronization of ULS data into HG's proposed system.

²² FWCC opposes the embedded new proposal to use "the SatPaq's transmit ... off-axis transmit suppression angles" to calculate stand-off distances. Without confirmation, FWCC is concerned that HG may not be able to sufficiently or reliably control the off-axis emissions from a hand-held consumer transmitter antenna to justify taking its off-axis suppression into account. Therefore, in the event the Commission proceeds with a grant of the waiver, FWCC submits that the distance calculations should use the full authorized EIRP of the SatPaq devices, 39 dBm, along with the FS receive antenna main beam gain and Category B-1 off-axis suppression. In the direction of the FS receiver antenna main beam, or in any off-axis direction, the stand-off distance should be large enough to ensure adequate isolation based on that antenna's height and local terrain. Otherwise, a proven worst-case assumption should be used rather than a ballpark guess relative to the spherical earth radio horizon.

²³ Opposition at 12. *See* FWCC Petition to Deny at 9 (pointing out that both "Category A and Category B1 requirements permit higher gain than HG's -20 dBi assumption at all angles, and far higher gain at many angles.").

²⁴ Neither does HG's assertion that RF scanners would be effective in identifying SatPaqs as a potential interference source. Here, HG completely misses the point: an intermittently transmitting mobile device can simply stop transmitting and/or move out of an area, thereby making it extremely difficult to identify the source of interference when there is no signal to track.

²⁵ Opposition at 9-10.

Conditionally authorized systems might not receive adequate interference protection as a result. Generally, the ULS database was not designed to support real-time selection of frequencies in a dynamic environment and the FWCC has serious reservations about whether extending it for such a purpose, as HG proposes, could be effective.

IV. CONCLUSION

For the foregoing reasons, the Commission should deny the Higher Ground LLC Application and waiver requests.

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TECHNICAL CERTIFICATION

I certify, under penalty of perjury, that I am a technically qualified person, I reviewed the foregoing Fixed Wireless Communications Coalition Reply to Consolidated Opposition of Higher Ground LLC and the technical statements therein are correct to the best of my knowledge and belief.

A handwritten signature in blue ink, appearing to read "William W. Perkins", is written above a horizontal line.

October 5, 2015

William W. Perkins
Committee Member, Technical Committee
Fixed Wireless Communications Coalition, Inc.

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing Fixed Wireless Communications Coalition Reply to Consolidated Opposition of Higher Ground LLC was sent by United States mail, first class postage prepaid, on this 5th day of October, 2015, to the following:

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