

JONES DAY

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March 3, 2019

BY ELECTRONIC DELIVERY

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street S.W.
Washington D.C. 20554

Re: Fifth Progress Report of Progeny LMS, LLC
WT Docket No. 12-202

Dear Ms. Dortch:

Progeny LMS, LLC (“Progeny”), by its counsel, hereby provides its Fifth Progress Report regarding the status of its construction and operation of its Multilateration Location and Monitoring Service (“M-LMS”) licenses.

On January 17, 2017, the Mobility Division of the Commission’s Wireless Telecommunications Bureau issued an order granting Progeny an extension of its M-LMS buildout milestones and a renewal of its M-LMS licenses (“*Waiver Order*”).¹ Pursuant to paragraph 35 of the *Waiver Order*, Progeny is required to provide periodic reports addressing its progress toward deployment, testing, and activation in each market. In addition, for those M-LMS licenses that are past the relevant end-of-term deadline, Progeny is required to provide confirmation that such licenses continue to remain in operation providing location accuracy services.

Since the filing of its initial progress report on March 1, 2017, Progeny has continued to work diligently with major wireless carriers, chipset vendors, handset manufacturers, and the public safety community on the full commercialization of Progeny’s M-LMS licenses through the development of a highly accurate indoor location service to support E911 emergency first responders.

¹ See Request of Progeny LMS, LLC for Waiver and Limited Extension of Time, WT Docket No. 12-202, *Order*, DA 17-20 (WTB, Mobility Div., Jan. 17, 2017) (“*Order*”).

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Progeny, through its affiliate, NextNav, LLC, has also continued to work with various U.S. Government agencies regarding the various applications for its Metropolitan Beacon System (“MBS”) technology using Progeny’s M-LMS spectrum. For example, pursuant to FCC Experimental License call sign WJ2XFO, NextNav completed the construction and acceptance testing of an MBS network involving five beacon transmitters serving the NASA research facility in Langley, Virginia. NASA is planning to use the MBS network to research drone navigation in GPS challenged environments. NASA has also requested that NextNav expand the size of the MBS network, which NextNav is currently planning.

Concurrently, Progeny and NextNav have also worked with the Commission to document the highly accurate indoor location capabilities of its MBS technology. As a result, on February 22, 2019, the Commission released a draft Fourth Further Notice of Proposed Rulemaking (“*4th FNPRM*”) that specifically references the capabilities of NextNav’s MBS technology as supporting the adoption of a z-axis metric of 3 meters for at least 80 percent of wireless indoor calls to emergency services.²

The tentative conclusions that were reached in the draft *4th FNPRM* are supported by detailed comments that NextNav filed with the Commission on October 1, 2018 showing that its MBS technology has consistently achieved z-axis accuracy of well within 3 meters for at least 80 percent of fixes in controlled test environments.³ NextNav’s most recent demonstration was in the Commission mandated z-axis test bed,⁴ the results of which documented vertical location accuracy for NextNav’s MBS technology of 1.8 meters or better for 80 percent of fixes and 3 meter or better accuracy for 94 percent of fixes, *i.e.*, “floor level” accuracy.⁵ As explained in NextNav’s comments, the test results for its MBS technology showed very little variation in accuracy despite testing in a wide range of morphologies and environments.⁶ The test results were also very

² See Wireless E911 Location Accuracy Requirements, FCC-CIRC1903-03, *Fourth Further Notice of Proposed Rulemaking*, PS Docket 07-114, at 16 and 20 (Feb. 22, 2019).

³ Comments of NextNav, LLC, PS Docket No. 07-114 at 2-5 (Oct. 1, 2018) (“*NextNav Comments*”).

⁴ See Letter from Scott K. Bergmann, Senior Vice President, Regulatory Affairs, CTIA, *et al.*, to Marlene H. Dortch, Secretary, Federal Communications Commission, PS Docket No. 07-114 (Aug. 3, 2018) (discussing CTIA’s completion of the z-axis test bed).

⁵ See *NextNav Comments* at 7.

⁶ See *id.* at 12 (Table 2).

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consistent with the z-axis results that its MBS technology has demonstrated in two prior independently-managed test beds.⁷

As the Commission is aware, the Location Accuracy Order that the Commission adopted in 2015 included escalating requirements for horizontal and vertical location accuracy that are implemented over an eight year period.⁸ During the first four years of the implementation, wireless carriers will likely be able to satisfy the wireless accuracy requirements using refinements to existing technology – such as A-GPS – and other location technologies that are already being deployed – such as OTDOA. At the fifth and sixth year milestones, however, wireless carriers will be required to provide either a dispatchable address solution or an x/y-axis location of within 50 meters for 70 and 80 percent, respectively, of all wireless 911 calls. The carriers are also required to meet a vertical requirement for E911 in the Top 25 and Top 50 markets by 2021 and 2023, respectively. It is at either or both of these fifth and sixth year benchmarks that the carriers will likely need the assistance of Progeny’s highly accurate indoor location technology to provide greater indoor penetration in heavily urban areas.

The fifth year milestone deadline for the wireless carriers will be on April 3, 2020 and the initial z-axis milestone will be by April 3, 2021. In advance of these deadline, Progeny has been negotiating with wireless carriers on the services that Progeny can provide to them and the network build out that this will entail. Although these discussions have been progressing, Progeny has not yet reached any final agreements with the carriers regarding those services. Consistent with this, Progeny has not completed the deployment, testing, or activation of its M-LMS network in any additional of its licensed Economic Areas (“EAs”). Progeny herein confirms, however, that it continues to operate each of its M-LMS networks for its 80 M-LMS licenses covering its top 40 EAs providing location accuracy services.

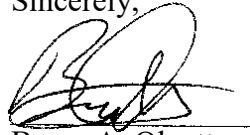
⁷ See *id.* at 6 (Table 1).

⁸ Wireless E911 Location Accuracy Requirements, PS Docket No. 07-114, Fourth Report and Order, FCC 15-9, ¶ 6 (2015) (“*Location Accuracy Order*”). April 3, 2015 was the effective date of the Commission’s new location accuracy rules.

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Please contact the undersigned if you have any questions about this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Bruce A. Olcott", written over a horizontal line.

Bruce A. Olcott