



FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON

OFFICE OF
THE CHAIRMAN

August 24, 2020

The Honorable Jim Cooper
Chairman
Subcommittee on Strategic Forces
Committee on Armed Services
U.S. House of Representatives
2340 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Cooper:

Thank you for your letter regarding the Commission's unanimous, bipartisan Order and Authorization permitting Ligado Networks LLC to deploy a low-power terrestrial nationwide network in support of 5G and Internet of Things services. Despite the clear and lengthy order the Commission adopted, there appears to be substantial confusion regarding what was decided in that order and why, as well as the role of advisory committees in the Commission's work. I appreciate this opportunity to clarify the record.

Let me start with the definition of "harmful interference" the Commission relied on in the *Ligado Order*. As we explained there, the Commission's decision was based on its long-standing definition of "harmful interference" codified in the Commission's rules, which is the very same definition of "harmful interference" used by the National Telecommunications and Information Administration. Indeed, the Commission codified this definition of harmful interference in section 2.1 of our rules in 1984 based on the definition adopted by the International Telecommunications Union—so the assertion that the definition we used was "based upon spectrum management principles derived from a series of technical white papers and spectrum policy recommendations authored by the Commission's Technical Advisory Council" is simply incorrect.

Next, the Commission fully considered and addressed the concerns of the GPS community in the *Ligado Order* as well as the agreements Ligado made with several major GPS device manufacturers. The *Ligado Order* further explains how the Commission took those concerns and these agreements into account in crafting the restrictions on Ligado's use of its terrestrial authority. For example, we conditioned Ligado's authorization on separating its downlink operations by 23 megahertz from the Radionavigation-Satellite Service allocation where GPS operations are authorized (in effect, a guard band created within Ligado's own licensed spectrum). In addition, Ligado will operate at substantially reduced power (99.3% lower than originally proposed), and our decision adopts a number of stringent conditions designed to address the potential for harmful interference, including the recommendations of the FAA and the Department of Transportation with respect to certified aviation receivers.

And the Commission took these actions based on an extensive technical record. As a reminder, when the Commission sought public comment on Ligado’s amended applications in 2016, it specifically referenced its definition of harmful interference and expressly requested commenters to provide relevant technical information about potentially affected GPS receivers and their “performance or functioning,” including the specific effects on position location accuracy. Three test reports were submitted to the Commission—the Roberson & Associates study (submitted May and June 2016), the National Advanced Spectrum and Communications Test Network report (submitted April 2017), and the Department of Transportation report (April 2018). The *Ligado Order* then extensively discussed and evaluated these reports, citing the Department of Transportation report at least 69 times, the National Advanced Spectrum and Communications Test Network report at least 48 times, and the Roberson & Associates report at least 44 times. Notably, the Commission found the National Advanced Spectrum and Communications Test Network report and Roberson & Associates report more persuasive because both provided data based on performance-based metrics, which examined various aspects related to the performance or functioning of GPS devices. As the Commission explained in the *Order*, the Department of Transportation report analysis did not assess—and was not directly correlated with—harmful interference, did not directly address the performance or functioning of the GPS devices in providing location-based services, and inappropriately relied on a metric and analysis for evaluating interference that was fundamentally flawed both from a technical and spectrum management standpoint. In short, your suggestion that the Commission “ignored the concerns of GPS and other satellite user communities” is simply incorrect.

Your letter suggests a possible “appearance of a conflict of interest” given the role of Dennis Roberson as principal of Roberson & Associates (author of one of the three technical studies discussed above) and as a member of the Commission’s voluntary Technical Advisory Council. This suggestion, however, reflects a fundamental misunderstanding about the role of the Technical Advisory Council and its interaction with the agency.

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Before appointment, nominees to Commission advisory committees go through ethics vetting—a process which Mr. Roberson completed on multiple occasions. Individuals such as Mr. Roberson who are nominated to serve as representatives of organizations on Commission advisory committees are asked specifically by Office of General Counsel Ethics staff whether they serve as officers or directors of entities other than the one nominating them to the advisory committee or if they have personal financial interests, including firm and client relationships, in any entity other than the one they would represent. These vetting conversations elicit information for ethics review of potential conflict and appearance concerns and provide advice and direction to nominees on how to address specific conflict or appearance of conflicts.

Advisory committee members also have a continuing obligation to disclose any interests in, or connections to, persons or entities that are, or will be, regulated by or have interests before the FCC. Accordingly, Mr. Roberson disclosed his interest in and connection to Ligado as required. In 2015, Mr. Roberson, who was professor at the Illinois Institute of Technology and Chairman of the Technical Advisory Council, informed the Commission that he had been retained by LightSquared (the predecessor-in-interest to Ligado) to provide technical analysis of proposed interference testing by the Department of Transportation and to provide independent testing of GPS devices. The Commission's Office of General Counsel, which has the responsibility to examine potential ethics and conflict-of-interest concerns, determined that Mr. Roberson's representation of LightSquared would not present any ethics issues regarding his continued participation on the Technical Advisory Council.

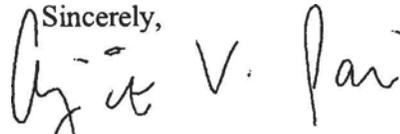
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Second, I would reiterate that the Roberson & Associates study was not the only performance-based study in the record and relied on by the Commission. Indeed, the Commission relied even more heavily on the National Advanced Spectrum and Communications Test Network report, which also demonstrated that the fears of widespread harmful interference claimed by some were flat-out false. And I would remind you that the National Advanced Spectrum and Communications Test Network is a multi-agency-chartered partnership that seeks to provide a “neutral forum” for testing, modeling, and analysis necessary to inform spectrum policy and regulations and was created in 2015 through a joint effort involving the National Institute of Standards and Technology, the National Telecommunications and Information Administration, the Department of Defense, the National Aeronautical and Space Administration, the National Science Foundation, and the National Oceanic and Atmospheric Administration. According to its charter, the organization's purpose is to “improve opportunities for successful spectrum sharing through accurate, reliable, and unbiased measurements and analyses.” In other words, that report is about as independent as you get.

Given these facts and the lengthy, transparent nature of this proceeding, I believe that referring these concerns to the FCC Inspector General is neither appropriate nor necessary.

Qualified and dedicated individuals, such as Mr. Roberson, perform a valuable service by contributing to advisory committees. Such service is voluntary and free to the federal government—and I hope that unfounded allegations like those in your letter do not dissuade individuals from agreeing to participate in federal advisory committees going forward.

Please let me know if you have any further questions.

Sincerely,

Ajit V. Pai



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WASHINGTON

OFFICE OF
THE CHAIRMAN

August 24, 2020

The Honorable Elise Stefanik
U.S. House of Representatives
318 Cannon House Office Building
Washington, DC 20515

Dear Congresswoman Stefanik:

Thank you for your letter regarding the Commission's unanimous, bipartisan Order and Authorization permitting Ligado Networks LLC to deploy a low-power terrestrial nationwide network in support of 5G and Internet of Things services. Despite the clear and lengthy order the Commission adopted, there appears to be substantial confusion regarding what was decided in that order and why, as well as the role of advisory committees in the Commission's work. I appreciate this opportunity to clarify the record.

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commenters to provide relevant technical information about potentially affected GPS receivers and their “performance or functioning,” including the specific effects on position location accuracy. Three test reports were submitted to the Commission—the Roberson & Associates study (submitted May and June 2016), the National Advanced Spectrum and Communications Test Network report (submitted April 2017), and the Department of Transportation report (April 2018). The *Ligado Order* then extensively discussed and evaluated these reports, citing the Department of Transportation report at least 69 times, the National Advanced Spectrum and Communications Test Network report at least 48 times, and the Roberson & Associates report at least 44 times. Notably, the Commission found the National Advanced Spectrum and Communications Test Network report and Roberson & Associates report more persuasive because both provided data based on performance-based metrics, which examined various aspects related to the performance or functioning of GPS devices. As the Commission explained in the *Order*, the Department of Transportation report analysis did not assess—and was not directly correlated with—harmful interference, did not directly address the performance or functioning of the GPS devices in providing location-based services, and inappropriately relied on a metric and analysis for evaluating interference that was fundamentally flawed both from a technical and spectrum management standpoint. In short, your suggestion that the Commission “ignored the concerns of GPS and other satellite user communities” is simply incorrect.

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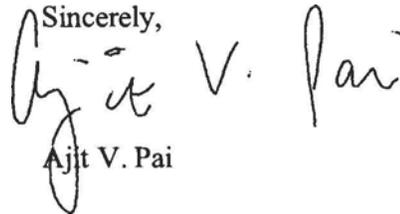
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August 24, 2020

The Honorable Michael R. Turner
Ranking Member
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Committee on Armed Services
U.S. House of Representatives
2340 Rayburn House Office Building
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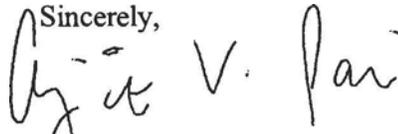
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