



November 19, 2021
Dr. Jon Eisenberg
Director
Computer Science and Telecommunications Board
The National Academies of Sciences, Engineering, and Medicine
500 Fifth Street, NW
Washington, DC 20001

Re: Review of FCC Order 20-48 Authorizing Operation of a Terrestrial Radio Network Near the GPS Frequency Bands; PIN Number DEPS-CSTB-21-02

Dear Dr. Eisenberg:

Pursuant to the invitation extended by the National Academies of Sciences, Engineering, and Medicine (“National Academies”) the GPS Innovation Alliance (“GPSIA”)^{1/} previously wrote to you, expressing concerns about the inclusion of one provisional member – Richard L. Reaser, Jr. – on the National Academies’ committee reviewing the Order adopted by the Federal Communications Commission (“FCC”) permitting Ligado Networks LLC (“Ligado”) to operate a terrestrial wireless network.^{2/} Yet, based on the National Academies’ website and the three briefings of the committee – during which Mr. Reaser confirmed GPSIA’s concerns – it appears that Mr. Reaser remains on the committee. GPSIA therefore asks that the National Academies immediately act on its request and excuse Mr. Reaser from further participation, before his membership on the committee irretrievably compromises the National Academies’ work.

As GPSIA explained, Mr. Reaser’s biography demonstrates he suffers from an irreconcilable conflict of interest based on his strong ties to an interested party – Cerberus Capital Management (“Cerberus”). Not only has Cerberus retained registered lobbyists to advocate on issues related to Ligado and the National Defense Authorization Act of 2021 (“NDAA”),^{3/} which likely relates to the very study the National Academies is conducting, but it also has a deep history of engagement and a likely current financial interest in Ligado.

^{1/} The GPSIA was formed in February 2013 to protect, promote, and enhance use of GPS and Global Navigation Satellite Systems (“GNSS”) technologies. Members and affiliates of the GPSIA are drawn from a wide variety of fields and businesses reliant on GPS, including manufacturing, aviation, agriculture, construction, defense, transportation, first responders, surveying, and mapping. The GPSIA also includes organizations representing consumers who depend on GPS for boating and other outdoor activities, and in their automobiles, smart phones, and tablets. The GPSIA recognizes the ever-increasing importance of GPS and other GNSS technologies to the global economy and infrastructure and is firmly committed to furthering GPS innovation, creativity, and entrepreneurship.

^{2/} See Letter from J. David Grossman, Executive Director, GPS Innovation Alliance, to Dr. Jon Eisenberg, Director, Computer Science and Telecommunications Board, The National Academies of Sciences, Engineering, and Medicine, PIN Number DEPS-CSTB-21-02 (dated Sept. 17, 2021).

^{3/} See LD-2 Disclosure Form, Lobbying Report (July 20, 2021), <https://disclosurespreview.house.gov/ld/ldxmlrelease/2021/Q2/301288013.xml> (engaging The Madison Group to lobby on “[i]ssues pertaining to Ligado Networks and National Defense Authorization Act”); see also LD-1 Disclosure

There is ample additional evidence that Mr. Reaser has prejudged the issues and is not capable of approaching his responsibilities with the open mind and reasoned judgment appropriate for committee members. For example, Mr. Reaser has been a collaborator with Dennis Roberson, whose report was (incorrectly) a significant basis of the FCC's decision. Messrs. Reaser and Roberson worked together on another report prepared by the National Academies in 2015 to assess the capabilities and performance of the Institute for Telecommunications Sciences and the Communications Technology Laboratory.^{4/} They also worked together on the Department of Commerce's Spectrum Management Advisory Committee.^{5/} But more than just working together, that collaboration shows that Mr. Reaser evidently already shares Mr. Roberson's views on whether the FCC should have approved Ligado's request.^{6/} Mr. Reaser has also separately demonstrated that he believes that what he considers to be a lack of receiver standards for GPS devices is the basis for Ligado's inability to demonstrate that it will not cause harmful interference to receivers.^{7/}

Mr. Reaser's conflict of interest is not just a hypothetical concern. The recent National Academies briefings have further demonstrated that GPSIA's concerns outlined above are justified. Indeed, during the National Academies' most recent public data-gathering session on November 4, 2021, which featured presentations from the National Telecommunications and

Form, Lobbying Registration (July 22, 2021), <https://disclosurespreview.house.gov/ld/ldxmlrelease/2021/RR/301294171.xml> (engaging Platt Strategic Consulting LLC on behalf of The Madison Group).

^{4/} Computer Science and Telecommunications Board, Division on Engineering and Physical Sciences, *Report in Brief: Telecommunications Research and Engineering at the Department of Commerce's Boulder Laboratories* (Dec. 2015), <https://www.nap.edu/resource/21828/RiB-boulder-telecommunications.pdf>.

^{5/} NTIA, CSMAC Members as of April 2019, <https://www.ntia.doc.gov/other-publication/2019/csmac-members-april-2019> (last visited Nov. 16, 2021); NTIA, CSMAC Members as of October 2016, <https://www.ntia.doc.gov/other-publication/2016/csmac-members-october-2016> (last visited Nov. 16, 2021).

^{6/} United States Department of Commerce, National Telecommunications and Information Administration, Commerce Spectrum Management Advisory Committee (CSMAC), Meeting, at 58-59 (Aug. 15, 2017), <https://www.ntia.doc.gov/files/ntia/meetings/08152017-csmac-transcript.pdf> ("I've been involved in some of these things where it happens once in a billion years and if it happens once in a billion years it's harmful interference, which is kind of ridiculous. And sometimes the scenarios of these core cases just rarely happen. I'm talking about the L band or GPS thing I was involved with for like literally 20 years.").

^{7/} International Symposium on Advanced Radio Technologies, *ISART 2012 Proceedings*, NTIA Special Publication SP-14-509, at 123 (2012), <https://www.its.bldrdoc.gov/publications/download/SP-14-508.pdf> (quoting Mr. Reaser, in response to questions about problems with GPS and receiver standards, as stating: "The commercial private sector equipment that has no standards that causes problems like that. Actually the military has lots of standards. I won't get into that. We can talk about lying about LightSquared, but it was very important that we have receiver standards so you are not going to be able to share spectrum if you have no idea the people who are listening into your band").

Information Administration (“NTIA”),^{8/} Mr. Reaser asked a series of leading, demeaning and often rhetorical, questions of Edward Drocella – NTIA’s Chief of Spectrum Engineering and Analysis – that fundamentally disparaged both NTIA and GPS operations. For example, Mr. Reaser commented and asked questions as follows:

- “Isn’t it logical that if it doesn’t interfere in the GPS band where GPS operates, that it wouldn’t interfere in the band that GPS is not supposed to operate? Do you allow GPS receivers, federal ones, to operate outside their allocation for RNSS? Is that allowed? Is that legit?”
- “Do I allow my FM radio to operate in the GPS band? Should I claim protection for it?”
- “How is GPS operating at all with that kind of scenario? That means just about everything exceeds 1 dB, reported by the receiver.”
- “Is that a good or bad design, Ed? C’mon No, that’s a dumb idea.”
- “Right now 1559-1610 is both terrestrial and space because you have an [Aeronautical Radionavigation Service (“ARNS”)] allocation . . . so are you going to remove the ARNS allocation now because we can’t have terrestrial near GPS? [Because] ARNS is a terrestrial allocation, it is not a space allocation as you know. It is a ground and air.”

GPSIA recognizes that it is the role of the National Academies to ask hard and probing questions as part of its work. However, as Mr. Reaser’s behavior has demonstrated, he is *not* engaging in the types of “data-gathering” activities that the National Academies has indicated it would. To the contrary, Mr. Reaser’s remarks have been hostile and demonstrably adversarial to NTIA, which challenged the FCC’s decision, and fawns to Ligado in defense of its proposed network. That stance directly contradicts Congress’ directive in the NDAA that the National Academies conduct an “independent technical review.”^{9/} Indeed, the National Academies has committed to base its analysis “on public reports and open science and engineering literature and practice”^{10/}

Perhaps worse, the questions outlined above are not relevant to the work that Congress asked the National Academies to perform. For example, the question of whether GPS receivers are “entitled” to protection from transmissions in frequencies is a legal and policy question, not a technical question and beyond the scope of the committee’s work. As noted above, Congress directed the National Academies to perform “an independent technical review” of the FCC’s assessment of whether Ligado will cause harmful interference to, among others, GPS services of

^{8/} See The National Academies of Sciences, Engineering, and Medicine, Review of FCC Order 20-48 Authorizing Operation of a Terrestrial Radio Network Near the GPS Frequency Bands, <https://www.nationalacademies.org/event/11-04-2021/review-of-fcc-order-20-48-authorizing-operation-of-a-terrestrial-radio-network-near-the-gps-frequency-bands-november-4-2021> (last visited Nov. 11, 2021).

^{9/} See National Defense Authorization Act for Fiscal Year 2021, Pub. L. No. 116-283, Sec. 1663 (2021) (“NDAA”).

^{10/} See The National Academies of Sciences, Engineering, and Medicine, Review of FCC Order 20-48 Authorizing Operation of a Terrestrial Radio Network Near the GPS Frequency Bands, Description, <https://www.nationalacademies.org/our-work/review-of-fcc-order-20-48-authorizing-operation-of-a-terrestrial-radio-network-near-the-gps-frequency-bands> (last visited Nov. 11, 2021).

the Department of Defense.^{11/} Whether GPS receivers are “entitled” to protection is well beyond the committee’s scope and is, not surprisingly, a point often made by Ligado itself, which the FCC decision declined to endorse.

Similarly, during recent committee meetings, Mr. Reaser aggressively offered his views of “good” GPS receiver design, including raising the question of whether “receiver manufacturers in the future [should be] required to disclose things like what bandwidth do [they] receive over.” Mr. Reaser was appropriately cautioned that the question was beyond the scope of the meeting’s presentation and in fact irrelevant to the question that the committee is required to address – whether the close to one billion existing GPS receivers in use in the US will suffer interference from Ligado’s proposed operations. Nevertheless, these consistent distractions intended to demean GPS risk undermining the ultimate work of the committee. And while Mr. Reaser claimed superior knowledge of these issues, his actual professional experience is confined to military GPS, and his opinions on what is a good receiver design to meet the needs of the many critical civilian applications that rely on GPS – even if relevant to the committee’s task – are entitled to no weight whatsoever. More fundamentally, because GPS receiver design has never been regulated by the FCC, it cannot possibly be part of the committee’s independent technical review of the FCC’s decision. While there is extensive evidence in the FCC’s record explaining why GPS receivers are designed the way they are, that is simply not a question within the purview of the committee.

In short, Mr. Reaser’s questions and comments share three characteristics: (i) they are hostile and argumentative, attempting to denigrate the commercial GPS industry; (ii) they are irrelevant to the issues before the committee; and (iii) they closely track the self-serving talking points of Ligado itself. Mr. Reaser not only has a conflict of interest, but that conflict and his past strongly held positions are clearly coloring his participation in the committee’s activities.

Accordingly, GPSIA strongly urges the National Academies to reconsider the provisional appointment of Mr. Reaser. And it should do so as promptly as possible. The longer Mr. Reaser is allowed to remain as a member of the National Academies, the greater his opportunity to – intentionally or not – influence other members and threaten the integrity of the process. Moreover, the duration of Mr. Reaser’s tenure at the National Academies will necessarily reduce the time available for another truly independent expert to review the materials on the record and engage in the meetings and dispassionate deliberations necessary for the National Academies to form its recommendations consistent with the statutory deadline in the NDAA.^{12/}

As GPSIA previously explained, it is critical that the National Academies’ review of the *Ligado Order* be conducted in an independent manner and that even the appearance of a conflict

^{11/} See *supra* note 9.

^{12/} See NDAA § 1633(c) (“Under an agreement between the Secretary and the National Academies under subsection (a), the National Academies, not later than 270 days after the date of the execution of such agreement, shall submit to the Committee on Armed Services of the Senate and the Committee on Armed Services of the House of Representatives a report on the findings of the National Academies with respect to the independent technical review carried out under subsection (b) and the recommendations developed pursuant to such review.”).

of interest on the part of any panel member be avoided. For that to occur, the National Academies must reconsider whether Mr. Reaser's membership would undermine the credibility of the National Academies' assessment and violate its statutory requirements.

If you have any questions, please do not hesitate to contact me at adamato@gpsalliance.org.

Sincerely,

/s/ Alex Damato

Alex Damato
Acting Executive Director
GPS Innovation Alliance