

April 23, 2024

The Honorable Joseph R. Biden, Jr.
President of the United States
The White House
1600 Pennsylvania Avenue NW
Washington, D.C. 20500

Dear President Biden:

The undersigned represent a broad cross-section of the federal and commercial user bases of Global Positioning System (“GPS”), satellite communications, and weather forecasting services that have raised ongoing concerns about the harmful interference risk that would be created by a Ligado terrestrial deployment as permitted as a result of the Federal Communications Commission’s (“FCC’s”) 2020 *Ligado Order*.¹ Now, four years after the *Order*’s adoption, eight petitions for reconsideration remain pending before the FCC,² an independent technical analysis conducted by the National Academies of Sciences, Engineering, and Medicine (“NAS”), as mandated by Congress in 2021,³ has shown that the *Order* is inadequate to protect incumbent services from Ligado’s proposed terrestrial operations,⁴ and Canada’s telecommunications regulator has denied Ligado Canada’s application for similar operations north of the border due to interference concerns and the unsettled nature of Ligado’s operations in the United States. Given the unaddressed and ongoing concerns raised since the *Ligado Order* was adopted, we

¹ *Ligado Amendment to License Modification Applications, IBFS File Nos. SES-MOD-20151231-00981, SAT-MOD-20151231-00090, and SAT-MOD-20151231-00091, Order and Authorization, 35 FCC Rcd 3772 (2020) (“Ligado Order” or “Order”).*

² More than 20 parties signed petitions for reconsideration of the *Ligado Order* and all of these petitions remain pending before the FCC. *See* Petitions for Reconsideration of the National Telecommunications and Information Administration (“NTIA”); the Air Line Pilots Association, International; the American Road & Transportation Builders Association, the American Farm Bureau Federation, and the Association of Equipment Manufacturers; the Joint Aviation Petitioners; Iridium Communications Inc., Flyht Aerospace Solutions Ltd., Aireon LLC, and Skytrac Systems Ltd.; Lockheed Martin Corporation; Trimble Inc.; and the Resilient Navigation and Timing Foundation, IB Docket Nos. 11-109 & 12-340 (all filed on or about May 22, 2020). The 10 “Joint Aviation Petitioners” consist of the Aerospace Industries Association, the Aircraft Owners and Pilots Association, Airlines for America, Aviation Spectrum Resources, Inc., the Cargo Airline Association, the General Aviation Manufacturers Association, the Helicopter Association International, the International Air Transport Association, the National Air Transportation Association, and the National Business Aviation Association.

³ *See* William M. (Mac) Thornberry National Defense Authorization Act (“NDAA”) for Fiscal Year 2021, Pub. L. 116-283, 134 Stat. 4074 § 1663 (“2021 NDAA”).

⁴ National Academies of Sciences, Engineering, and Medicine, *Analysis of Potential Interference Issues Related to FCC Order 20-48* (2022), <https://doi.org/10.17226/26611> (“NAS Report”).

urge you to work together with the FCC to grant the petitions for reconsideration and set aside the *Order*.⁵

The *Ligado Order* threatens the critical GPS, satellite communications, and weather forecasting services relied on by scores of millions of users every day.⁶ For this reason, the *Order* has faced unified and unprecedented opposition from the federal government, including 14 federal agencies and departments.⁷ We greatly appreciate your administration’s opposition to the *Ligado Order* and the commitment by NTIA, on behalf of the Executive Branch, to actively pursue grant of its petition for reconsideration of the *Order*. The other seven pending petitions for reconsideration, filed by industry, also show that the *Ligado Order* is fundamentally flawed, incompatible with the FCC’s rules, and inadequate in protecting incumbent services from harmful interference as a result of Ligado’s proposed operations. This substantial documentation, among many other concerns from federal and commercial users, resulted in Congress enacting bipartisan legislation in consecutive years *after* the FCC’s adoption of the *Ligado Order*, mandating NAS’s independent technical review and requiring the Department of Defense (“DoD”) to brief federal representatives across the government “at the highest level of classification” on the potential risk of widespread harm from Ligado’s proposed terrestrial operations.⁸

The 2022 NAS Report confirmed that the *Order* is inadequate for purposes of protecting incumbent services from harmful interference from Ligado’s proposed terrestrial operations.⁹ This interference would occur to incumbent L-band services across a broad range of deployment scenarios. The NAS findings are consistent with the well-supported and robustly documented analyses and determinations by both the federal government and commercial parties. Importantly, as concisely stated by DoD and detailed in the NAS Report, “[t]he terrestrial network authorized by [the *Ligado Order*] will create unacceptable harmful interference for DoD missions. The mitigation techniques and other regulatory provision [*sic*] in [the *Ligado Order*]

⁵ While not a necessary step prior to granting the reconsideration petitions, the FCC would also be justified in first staying the effectiveness of the *Ligado Order*.

⁶ The FCC should also not proceed to adopt rules in companion rulemakings that would create a material risk of harmful interference to weather forecasting and hydrology services resulting from proposed Ligado deployments in the 1675-1680 MHz spectrum band, particularly considering the analysis and recommendations presented in the “Spectrum Pipeline Reallocation 1675–1680 MHz Engineering Study (SPRES) Program Report.” See Allocation and Service Rules for the 1675-1680 MHz Band, *Notice of Proposed Rulemaking*, 34 FCC Rcd 3352 (2019); U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Environmental Satellite Data Information Service, *Spectrum Pipeline Reallocation 1675–1680 MHz Engineering Study (SPRES) Program Report*, Silver Spring, MD: NESDIS, October 2020 (public release Aug. 2022).

⁷ See Memorandum from Thu Luu, Executive Agent for GPS, Department of the Air Force, to Interdepartment Radio Advisory Committee Chairman (Feb. 14, 2020).

⁸ 2021 NDAA §1663; NDAA for Fiscal Year 2022, Pub. L. 117-81, 135 Stat. 1541 § 1613.

⁹ The term “harmful interference” is herein used to describe the results of the NAS Report. The undersigned believe the results of the NAS Report dictate that the FCC must reach the legal conclusion that Ligado’s operations would cause harmful interference under the FCC’s rules.

are insufficient to protect national security missions.”¹⁰ NTIA importantly stated that the NAS Report “offers the Commission an important opportunity to reconsider Ligado’s Authorization.”¹¹

Last May, Innovation, Science and Economic Development Canada (“ISED”) denied Ligado Canada’s application to operate a terrestrial service in identical frequency bands and similar operations to those proposed in the United States.¹² ISED noted that, while harmonization with the United States on technological standards is important, outstanding concerns raised by numerous parties regarding the potential for interference from Ligado’s ATC operations made it premature to grant Ligado’s application despite the FCC’s issuance of the *Ligado Order*. This ISED decision highlights the critical and unresolved interference concerns regarding Ligado’s proposed terrestrial operations.

The NAS Report’s conclusions and the ISED decision, combined with the substantial evidence of harmful interference risk in the pending reconsideration petitions, necessitates FCC action to address the harm from Ligado’s proposed terrestrial network and remove the uncertainty the *Ligado Order* creates. Four years after this flawed FCC decision, we once again urge you to work with the FCC to lift the cloud of potential harms from Ligado’s proposed terrestrial network to critical GPS, satellite communications, and weather forecasting services by staying the *Order*, addressing the previously unavailable information contained in the NAS Report, and granting the pending petitions for reconsideration.

Sincerely,

AccuWeather, Inc.
Airborne Public Safety Association
Aircraft Electronics Association
Air Line Pilots Association, Int’l
Aircraft Owners & Pilots Association
Aireon
Airlines for America
ALERT Users Group
Allied Pilots Association
American Farm Bureau Federation

American Geophysical Union
American Meteorological Society
American Road & Transportation
Builders Association
American Sportfishing Association
American Weather and Climate Industry
Association
Arizona Agricultural Aviation
Association
Arkansas Agricultural Aviation Association

¹⁰ NAS Report at 6, 73.

¹¹ Press Release, NTIA, NTIA Statement on National Academies of Sciences Report (Sept. 9, 2022), <https://ntia.gov/press-release/2022/ntia-statement-national-academies-sciences-report>.

¹² See Decision on the Notice of Application Received from Ligado Networks (Canada) Inc. for Ancillary Terrestrial Component (ATC) Authority in the L-Band, ISED (rel. May 31, 2023), <https://isedisde.canada.ca/site/spectrum-management-telecommunications/en/spectrum-allocation/decision-noticeapplication-received-ligado-networks-canada-inc-ancillary-terrestrial-component-atc>. Ligado Canada proposed to operate at a higher power in Canada than its parent company, Ligado Networks, is authorized to use in the United States under the *Ligado Order*.

Associated Equipment Distributors
Association for Uncrewed Vehicle
Systems International
Association of Aerial Applicators
Washington
Association of Equipment Manufacturers
Association of Marina Industries
Association of Montana Aerial Applicators
Aviation Spectrum Resources, Inc.
Boat Owners Association of The United
States
Cargo Airline Association
California Agricultural Aircraft Association
CNH Industrial
Coalition of Airline Pilots Associations
CoBank
Colorado Agricultural Aviation Association
Diana Furchtgott, Adjunct, Professor -
George Washington University
Florida Agricultural Aviation Association
Frontier Airlines
General Aviation Manufacturer Association
GeoOptics
Georgia Agricultural Aviation Association
Global Business Travel Association
Idaho Agricultural Aviation Association
Illinois Agricultural Aviation Association
Indiana Agricultural Aviation Association
International Air Transport Association
Iowa Agricultural Aviation Association
Iridium Communications Inc.
Kansas Agricultural Aviation Association
Land Improvement Contractors of America
Lockheed Martin Corporation
Louisiana Agricultural Aviation Association
Marine Retailers Association of the
Americas
Michigan Agricultural Aviation Association
Microcom Environmental
Minnesota Agricultural Aircraft Association
Mississippi Agricultural Aviation Association

Missouri Agricultural Aviation Association
Narayan Strategy
National Agricultural Aviation Association
National Air Carrier Association
National Business Aviation Association
National Cotton Council
National Society of Professional Surveyors
National Weather Association
Nebraska Aviation Trades Association
NetJets Association of Shared Aircraft
Pilots
New Mexico Agricultural Aviation Association
North Carolina Agricultural Aviation Association
North Dakota Agricultural Aviation Association
Northeast Agricultural Aviation Association
Ohio Agricultural Aviation Association
Oklahoma Agricultural Aviation Association
Oregon Agricultural Aviation Association
Pacific Northwest Aerial Applicators Alliance
PlanetiQ
Polar Air Cargo
RNT Foundation
Recreational Boaters of California
Seafarers International Union
South Dakota Aviation Association
Southeast Aero Cultural Fair
Subsurface Utility Engineering Association
Tennessee Aerial Applicators Association
Texas Agricultural Aviation Association
The Airo Group
The Semaphore Group
Trimble Inc.
URISA
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University Corporation for Atmospheric
Research
USA Rice
Vertical Aviation International
Vertical Flight Society
Westwind Helicopters, Inc.
Wisconsin Agricultural Aviation Association