Robert T. Ryan
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June 14, 2016

Federal Communications Commission
Ms. Marlene Dortch, Secretary
445 12th Street, S.W.
Washington, DC 20554

RE: Proceeding RM-11681 – Comment Sought to Update the Record on Ligado's Request that the Commission Initiate a Rulemaking to Allocate the 1675-1680 MHz Band For Terrestrial Mobile Use Shared With Federal Use

Dear Ms. Dortch:

I am writing not as a manager of one of the many companies of the "weather enterprise", nor as a representative of the many weather risk sectors, such as aviation, marine, emergency management, which I believe will be adversely affected by the request to "share" a small, but critical, communication link with the next generation of weather satellites (GOES-R). I write as someone who has communicated weather forecasts, data and critical weather warnings to the public for almost 40 years. I write as someone, who I hope, might represent a critical group impacted by the Ligado request, the general public.

I believe the Ligado request, referenced above, is 1) clever, but 2) too dangerous to warrant further consideration by the Commission beyond soliciting comments. The idea that a critical, mission-oriented communication link for extreme weather, and life saving weather warning information and data could be "shared" with a commercial mobile wireless operation is a clever idea. The idea that such "sharing" would have absolutely **no interference** with the transmission and delivery of critical 24/7/365 weather satellite data and warnings now or in the future, is foolish, and dangerous. The "sharing" idea may be clever, but the idea, in documents submitted by Ligado, that there will be "safe" zones around critical NOAA/NWS facilities such as Silver Spring, MD, Norman, OK or Miami, FL I find flat out silly. That may benefit key Federal receive sites, but a myriad of other industry segments, including state and local governments and the general public also use and benefit (directly and indirectly) from these satellite broadcasts. I believe any proposal that may put communication of life saving weather warnings now or in the future at any level of risk above 0%, is certainly not in the interests of "public good." This

is something I always felt was an overarching consideration of the licensing of communication frequencies.

Let me give one hypothetical, but very real, example of the potential future risk and danger of this "spectrum sharing" idea. Flash flooding still kills about 100 Americans every year in spite of vastly improved weather forecasts and warnings. About 80 percent of these deaths are people in vehicles and many occur at night. So-called "smart" cars are coming. In the near future it may be possible to have direct links to specific flash flood warnings, communicated through products created from the GOES-R 1675-1680 MHz band to smart cars and have the cars stop, and not proceed before the driver and passengers drive into life-threatening waters on flooded roads, from overflowing streams or rivers. **Should the communication of such life saving information by the National Weather Service (NWS) via the GOES-R 1675-1680 MHz with 0 percent risk of any interference be only limited to the "safe, protected" zones around Silver Spring, Norman or Miami?**

We have seen and know how rapidly technology is advancing. I grew up, as a future meteorologist, when the first weather satellite TIROS was launched. Communications of TIROS weather satellite data from space had no interference, no "shared" bandwidth. We marveled at regular pictures from space, as television meteorologists such as myself began to incorporate these into daily weather segments. **Can we predict how a "clean" (aka protected by the FCC for the public good) GOES-R communication band will be used for communication of life saving information and critical decision making by the public and "smart" devices in the future? Of course we can't and we certainly can't if this "clean" band is shared and interference is anything above 0 percent risk.** Can we, writing on behalf of the true owner of this critical bandwidth, the U.S. taxpayer (aka "the public"), risk the future loss, or even shared interference for what will be critical life saving information at any risk above 0 percent? And this is being done to open commercial opportunities for a company recently emerging from bankruptcy? No matter how "clever" the proposal to the FCC is, for the sake of the "public", I sincerely hope it does not go through.

In the public notice process to assess this spectrum sharing proposal, who is looking out for the public's well being? Trying to get a sense of the risk to the American public of having severe weather warnings disrupted by radio spectrum interference is not something the American public is prepared or empowered to comment on through an FCC Public Notice. Few of the members of the weather enterprise even readily understand the contribution of this small segment of spectrum to the products and services provided, let alone the American public. Strong and weak signals sharing the same frequency is a recipe for disaster.

I request you give consideration to the needs of the general public in this FCC Public notice process. For example:

- The large proportion of our nation's population that live within 50 miles of a shoreline or in a flood zone. These citizens are likely subject to flooding in extreme precipitation events or storm surge during hurricanes
- The citizens of "tornado alley" who receive only minutes of advance warning before a tornado touches down in or near their neighborhood
- The passengers on commercial aircraft or helicopters that need to avoid meteorological hazards such as the ash from volcanic eruptions or hurricanes
- The coastal residents who may be impacted by a tsunami or residents in the northern part of the country trying to determine whether their day will contain snow or rain.

Unless someone can prove this spectrum sharing will have **no impact** on the ability to make the best use possible of the current GOES and future GOES-R weather satellite, especially for real-time severe weather forecasting, then I suggest this is a very bad idea. Anything more than O percent risk?

And we need to consider the future of real-time severe weather forecasting. Where will the spectrum come from for the generations of satellites that follow GOES-R? The weather forecasting advances the next generation will see may not be able to broadcast this innovation directly to the ground, let alone have enough bandwidth to get the next advances in satellite meteorology to those who can benefit from it.

Please deny the Ligado application and send a message to the public that our FCC does value safety and public service above "clever but dangerous" efforts to recover from bankruptcy at the expense of public safety.

In closing, the quotation from a recent AMS letter to Congress bears repeating: "[T]he choice of which spectrum bands are shared should not endanger the reliability or the effectiveness of public safety meteorological and hydrological data flow from NOAA satellites. We note that the Presidential Memorandum (Unleashing the Wireless Broadband Revolution, June 28, 2010[1]) directed that spectrum repurposing must ... take into account the need to ensure no loss of critical existing and planned Federal, State, local and tribal government capabilities."

On behalf of the general public, I suggest that the spectrum sharing proposed will create a loss of existing and planned capabilities that is not acceptable.

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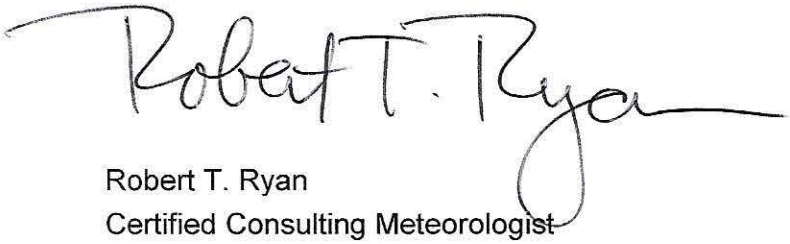
[1] https://www.whitehouse.gov/the-press-office/presidential-memorandum-unleashing-wireless-broadband-revolution

Thank you for considering my input to this public notice proceeding.

Sincerely,



Robert T. Ryan
Certified Consulting Meteorologist
Fellow and Past President of the American Meteorological Society

CC:
The Honorable John Thune, Chairman, Senate Commerce, Science and Transportation Committee

The Honorable Bill Nelson, Ranking Member, Senate Commerce, Science and Transportation Committee

The Honorable Marco Rubio, Chairman, Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard

The Honorable Cory Booker, Ranking Member, Subcommittee on Oceans, Atmosphere, Fisheries and Coast Guard

The Honorable Fred Upton, Chairman, House Energy and Commerce Committee

The Honorable Frank Pallone, Jr, Ranking Member, House Energy and Commerce Committee

The Honorable Greg Walden, Chairman, Communications and Technology Subcommittee

The Honorable Anna G. Eshoo, Ranking Member, Communications and Technology Subcommittee

The Honorable Jim Bridenstine, Chairman, Subcommittee on Environment, House Science, Space and Technology Committee

The Honorable Suzanne Bonamici, Ranking Member, Subcommittee on Environment, House Science, Space and Technology Committee

The Honorable John Fleming, Chairman, Subcommittee on Water, Power and Oceans, House Natural Resources Committee

The Honorable Jared Huffman, Ranking Member, Subcommittee on Water, Power and Oceans, House Natural Resources Committee

The Honorable Lawrence E. Strickling, Assistant Secretary for Communications and Information and NTIA Administrator, Department of Commerce

The Honorable Richard Shelby, Chairman, Commerce, Justice, Science, and Related Agencies Subcommittee

The Honorable Barbara Mikulski, Vice Chairwoman, Senate Appropriations Committee

The Honorable John Culberson, Chairman, Commerce, Justice, Science and Related Agencies Subcommittee

The Honorable Mike Honda, Acting Ranking Member, Commerce, Justice, Science and Related Agencies Subcommittee

The Honorable Mark R. Warner

The Honorable Timothy M. Kaine

The Honorable Barbara Comstock

The Honorable Dr. Kathryn D. Sullivan, Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator