

# Congress of the United States

## House of Representatives

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

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[www.science.house.gov](http://www.science.house.gov)

September 30, 2019

The Honorable Ajit Pai  
Chairman  
Federal Communications Commission  
445 12<sup>th</sup> Street SW  
Washington, D.C., 20554

Dear Chairman Pai,

I am writing regarding the upcoming World Radiocommunication Conference 2019 (WRC-19), which is slated to begin on October 28, and specifically Agenda Item 1.13, which addresses out-of-band emissions limits under consideration for the 24.25-24.75 GHz spectrum band (referred to hereafter as the 24 GHz band).

Ranking Member Frank Lucas and I wrote to you on March 13 requesting the delay of the 24 GHz auction out of concern for potential interference with weather data collected at the adjacent 23.8 GHz band by passive sensors on National Oceanic and Atmospheric Administration (NOAA), National Aeronautics and Space Agency (NASA), and Department of Defense (DoD) satellites, referred to as the Earth Exploration-Satellite Service (EESS).<sup>1</sup> In a written response, you asserted that there was no evidence of potential interference with weather data.<sup>2</sup> On March 19, the Federal Communications Commission (FCC) proposed an emissions limit of -20 dBW for the 24 GHz band for consideration in the Inter-American Telecommunication Commission's (CITEL) preparation for WRC-19 Agenda Item 1.13.<sup>3</sup> Earlier this month at the 3<sup>rd</sup> ITU Inter-regional Workshop on WRC-19 Preparation in Geneva, CITEL, of which the United States is a member state, proposed an emissions limit of -28 dBW for the 24 GHz band.<sup>4</sup>

Attached are two studies prepared by NASA and NOAA to support discussion of Agenda Item 1.13. Both agencies conclude that at an out-of-band emissions limit of -20 dBW, activity in the

<sup>1</sup> <https://science.house.gov/imo/media/doc/Pai%20FCC%20Letter.pdf>

<sup>2</sup> <https://science.house.gov/imo/media/doc/4.29.19%20Ajit%20Pai%20letter%20to%20EJB.pdf>

<sup>3</sup> Appendix A

<sup>4</sup> Appendix B

24 GHz band would cause significant interference with weather data provided by the EESS. The “Results from NASA/NOAA” study notes that “the EESS systems would experience 77.4% data loss at out-of-band limits of -20dBW/200MHz.”<sup>5</sup> The “Additional Sharing” study notes that “the percentage of time the...interference threshold is exceeded is 70.96% in the case of the single element antenna model, and 24.46% in the case of the full array antenna model.”<sup>6</sup> The studies conclude that the emissions limit for 24 GHz should be as stringent as -52.4 dBW in order to prevent interference with satellite-collected weather data; a level that is over 1,000 times more restrictive than -20 dBW.

NOAA and NASA leadership have affirmed these concerns before the House Science, Space & Technology Committee. On April 2, NASA Administrator Jim Bridenstine testified that at these more relaxed emission limits of -20 dBW, “there is a very high probability that we are going to lose a lot of data.”<sup>7</sup> On May 16, NOAA Acting Administrator Neil Jacobs expressed similar concerns over loss and forecast accuracy due to interference from the 24 GHz band.<sup>8</sup> In addition, a March 27 memo prepared by the U.S. Navy stated that a -20 dBW emissions limit will result “in a partial-to-complete loss of remotely sensed water-vapor measurements” and recommended that the FCC tighten out-of-band interference to -57 dBW.<sup>9</sup>

Yet the FCC has claimed repeatedly that a -20 dBW emission limit would have no impact on weather data. On June 12, you told a Senate Committee that “the FCC has seen no scientific evidence that -20 dBW would impact weather data.” You also dismissed one unnamed federal study that modeled potential interference, stating that “the assumptions that clearly underlaid [it] were so flawed as to make the study, in our view at least, meaningless.”<sup>10</sup> FCC representatives have made other public criticisms about the quality of the NOAA/NASA studies, but to our knowledge the FCC has not put forward any technical analysis in support of these assertions.

It is imperative that U.S. federal agencies resolve this disagreement about out-of-band emission limits before we begin negotiations with international partners at WRC-19. Given this truncated timeline, I am requesting the following documents no later than 5:00 pm on October 7, 2019:

1. Any analysis or review that the FCC has conducted on the NOAA/NASA studies named above.
2. Any internal or external analyses or technical studies on out-of-band emission limits and the potential for interference with weather data that the FCC relied upon to inform the Commission’s emission limit proposal of -20 dBW for the 24 GHz band.
3. Any internal or external analyses or technical studies on out-of-band emission limits and the potential for interference with weather data that were used to inform the CITEL’s proposal of -28 dBW for the 24 GHz band.

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<sup>5</sup> Appendix C

<sup>6</sup> Appendix D

<sup>7</sup> <https://science.house.gov/hearings/a-review-of-the-nasa-fy2020-budget-request>

<sup>8</sup> <https://science.house.gov/hearings/the-future-of-forecasting-building-a-stronger-us-weather-enterprise>

<sup>9</sup> <https://www.wyden.senate.gov/imo/media/doc/Navy%2024Hz%205G%20Spectrum%20Impacts.pdf>

<sup>10</sup> <https://www.commerce.senate.gov/2019/6/oversight-of-the-federal-communications-commission>

Pursuant to Rule X of the U.S. House of Representatives, the Committee on Science, Space, and Technology is delegated full legislative and oversight jurisdiction over the National Weather Service and the National Aeronautics and Space Administration as well as oversight jurisdiction over all laws, programs, and Government activities relating to nonmilitary research and development.<sup>11</sup>

Please produce two sets of the requested materials in a searchable electronic format. One set should be delivered to the Majority Staff of the Science Committee in Room 2321 of the Rayburn House Office Building and one set should be delivered to the Minority Staff in Room 394 of the Ford House Office Building.

Thank you for your attention to these matters. Please have your staff contact Ms. Janie Thompson at 202-225-6375 with any questions.

Sincerely,



Eddie Bernice Johnson  
Chairwoman  
Committee on Science, Space, and Technology

#### Appendices

- A. U.S. Proposal on WRC-19 Agenda Item 1.13, submitted by FCC on March 19.
- B. Slide deck from the 3<sup>rd</sup> ITU Inter-regional Workshop on WRC-19 Preparation, dated September 5, 2019.
- C. Study prepared by NOAA and NASA, "Results from NASA/NOAA Sharing Studies on WRC-19 Agenda Item 1.13"
- D. Study prepared by NOAA and NASA, "Additional Sharing Study Results Using the NASA GPM Sensor"

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<sup>11</sup> Rule X, Organization of Committees, U.S. House of Representatives, accessed here:  
<https://www.govinfo.gov/content/pkg/HMAN-115/xml/HMAN-115-pg441.xml>

CC:

The Honorable Brendan Carr  
Commissioner  
Federal Communications Commission

The Honorable Michael O'Rielly  
Commissioner  
Federal Communications Commission

The Honorable Jessica Rosenworcel  
Commissioner  
Federal Communications Commission

The Honorable Geoffrey Starks  
Commissioner  
Federal Communications Commission